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The next Annual Meeting of the Massachusetts Medical Society will be held at the Hotel Statler, Boston, on Monday, Tuesday and Wednesday, June 5, 6, 7, 1933.

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The New England
Journal of Medicine

VOLUME 208 MAY 4, 1933 NUMBER 18

BOSTON SURGICAL SOCIETY

THE AWARD OF THE HENRY JACOB BIGELOW MEDAL

THE meeting at the John Hancock Hall, May 3, 1933 was called to order by Dr. Irving J. Walker*, who spoke as follows:

Members of the Boston Surgical Society, and Friends:

We are gathered here this evening to fulfill the wishes of the late Dr. William Sturgis Bigelow, who in 1915 gave this Society a certain sum of money with the stipulation that the interest from these invested funds should from time to time be devoted to the presentation of a medal to one chosen for his "contributions to the advancement of surgery". This medal honors the memory of Dr. Bigelow's father, the late Dr. Henry Jacob Bigelow.

Few, if any, here tonight will personally remember Henry Jacob Bigelow the surgeon. To most of us he is known historically as having been Surgeon to the Massachusetts General Hospital and Professor of Surgery at the Harvard Medical School, a dynamic personality, a master surgeon, who during the thirty years of his activities contributed much to the progress of surgery.

That the Boston Surgical Society has cherished the trust placed upon it is evidenced by the fact that it has wisely seen fit to bestow this medal but six times in the past eighteen years, and to the following internationally recognized surgeons:

1921, To Dr. William J. Mayo, Rochester, Minnesota
1922, To Dr. W. W. Keen, Philadelphia, Pennsylvania
1926, To Dr. Rudolph Matas, New Orleans, Louisiana
1928, To Dr. Chevalier Jackson, Philadelphia, Pennsylvania
1931, To Prof. George Grey Turner, Newcastle-upon-Tyne, England
1932, To Dr. J. M. T. Finney, Baltimore, Maryland.

Tonight for the first time we meet to honor one whom we like to claim as our own. Educated in the Medical School of Harvard University, trained as an interne at the Massachusetts General Hospital, developed as an investigator and surgeon at the Johns Hopkins Hospital, he returned to us in 1912 as Moseley Professor of Surgery at the Harvard Medical School, and Surgeon-in-Chief to the Peter Bent Brigham Hospital, in those institutions to function as a teacher, a writer, a surgeon par excellence.

I have the pleasure and honor of presenting to you Dr. Harvey Cushing.

*Walker—Surgeon-in-Chief, Harvard Surgical Teaching Service, Boston City Hospital. For record and address of author see "This Week's Issue," page 962.

HOMO CHIRURGICUS*

BY HARVEY CUSHING, M.CH. (DUBLIN)

BIOLOGICALLY speaking, the chirurgeon is a peculiar animal of comparatively recent era with a pair of hands terminating in ten more or less highly specialized digits. It has been generally assumed that they were his most distinguishing feature and from a paleontological standpoint the only satisfactory explanation for the appearance of his species.

Through them—his hands—by the natural course of selective evolution out of *Homo eoanthropus* of the Pliocene (exemplified by the Piltdown man), through *Homo medicus ordinarius et generalis* of whom (or which) fossiliferous specimens are numerous in the early Pleistocene deposits, and then by way of *Homo medicus internus* (an inter-glacial form), he had arrived and been set apart among Paleolithic cave-dwellers as *Homo chirurgicus, superbus et supremus*—proving the truth of the Darwinian theory.

While this, for all practical purposes, would seem incontrovertible and as near the scientific truth as one might expect to arrive in this fallen world, it has proved annoying rather than gratifying to *Homo medicus internus* whose present postglacial [sometimes called human] representative looks upon himself as the last word, as he says:—"Produce the facts."

Now this Baconian idea—long used and at times abused even by what are known as biometricians and astrophysicists—of first assembling the facts, has suddenly struck the popular fancy and nowadays if you are not "factual" you are as nothing. Whether you have got at the true facts, rather than misleading ones, and whether you can interpret them properly or more easily twist them to your own way of thinking, and what you are going to do with them even then doesn't much matter. And since *H. medicus internus* has raised this question of Who's Who-est among medical *Homos,* let us, between friends, get at the facts—he his, we ours.

This was not so simple as it promised at first to be, for *H. medicus* promptly insisted on enlarging the scope of the enquiry to include not only Who's Who, but How's How, and Why's Why. It was quite impossible to comply with this demand for several reasons. To drag personalities into a scientific discussion would lead no one could tell where, and it was almost certain to get into the papers. Should this happen, it was no less certain to attract the attention of *Homo sociologicus,* a primitive fact-finding mammal whose contemporary flora and fauna (to quote from Professor G. Elliot Smith) "indicate a favourable forest environment where food was plentiful and safety was assured by concealment or flight rather than by combat with weapons" (*cf.* footnote)*.

Still, as we say, facts must be faced, and to assemble our own before *H. medicus* assembled his, the first thing to do unquestionably was to make a factual study of those appendages most essential to *H. chirurgicus,* viz., his hands. There surely would lie the secret of his selective peculiarities—his preëminence. In short, as has been often said: "Hands make the man." Hence we will begin with ourselves, work back through the sculptor, artist, musician, cabinet maker, blacksmith, bricklayer, until we come finally to *H. medicus* and others unhandy. It will be a long and expensive study, but what of that? We will enlist the interest of one or more of the Foundations in the problem.

The methods to be pursued having thus been formulated, as opportunity has offered, beginning with the most clever and distinguished of the species from evenly distributed parts of the country, chirurgeons, one by one, over the course of the past seven years have been lured, under one pretext or another, into the well-known shop of the late Signor Caproni. He, Signor Caproni, having previously been let into the conspiracy, while the lurer was about his pretended errand in the back of the shop, would politely show the unsuspecting victim his latest works in plaster—the Wingèd Victory, the Discobolus, and this or that Venus—and then would suddenly say: "Your hand, Signor, what a marvellous hand! Allow me to take a cast of it to preserve for future generations: it will take but a moment."

It was of course highly essential that no one should surmise the scientific purport of what was being assembled, least of all *H. medicus,* lest spurious, non-surgical, even female hands be surreptitiously added to the collection. Needless to say, all precautions were taken in this regard and the type groupings *per 1000* of the population, which will be found in the tables of the Appendix (Note particularly Table 161), may be looked upon as mathematically correct. With this secretly acquired and painstakingly assorted material before us, it has been possible quietly to study, analyse and make graphs of some of the more famous and characteristic hands of *H. chirurgicus* ever submitted to intensive research, coupled at the same time with

*Given before the Boston Surgical Society, May 3, 1933, on the occasion of the bestowal of the Henry Jacob Bigelow Medal.

*The claim put forth by *H. sociologicus* of his descent from *Homo pithecanthropus* the early ape-man, is, to be sure, only his wish-to-believe; others are inclined to trace the species back to the lemur, for in the study of an example and comparing it with the walrus Wolfgang Goethe, in a factual mood during his early youth, first discovered the intermaxillary bone.

what is known as "an exhaustive perusal of the literature" (*cf.* Bibliography, pp. 419-456).

At the outset it was somewhat disconcerting to find that there were an unsuspected number of manumetric subspecies. However, it was soon realized that they could be divided into certain major groups: viz., (1) big hands, (2) little hands, (3) fat hands, (4) skinny hands, (5) muscular hands, and (6) those which showed a definite affinity for feminine hands. These six principal groups having thus been satisfactorily classified, the next step was to subdivide them in correspondence with the several chirurgical specialties which have acquired their own lingo and issue weekly "Transactions" in the vernacular. Easily recognized were the following digital types: (a) long, (b) stubby, (c) tapering, (d) bulbous, and finally, (e) crooked—these last having been discarded from the study to be dealt with separately in a privately printed monograph now going through the press and promised for October (Barnum, Bailey and Saunders, Inc., Pub's., N. Y. and Phila.).

Properly to interpret the data thus assembled, the aid of *Homo mathematicus* was solicited at this point, and he by the employment of those processes understandable only to his species, succeeded, for the first time in the history of science, in plotting on a single graph the five variables representing each and every digit. This of itself was said to be a brilliant achievement fully justifying the entire research as was promptly reported in the "Science News Letter" for August 12, 1928, pp. 19-21.

However, as is so often the case, the calculations were unconvincing from the double standpoint of astrology and alchemy, and consequently some more dependable method had to be sought. Fortunately at this juncture it was proposed, by a recent undergraduate-student of tutorial grade, that if samples were taken from each hand in the collection and subjected to biochemical study, it might be possible by the phosphotase determinations to detect an enzyme, a pleuriglandular hormone, or even to precipitate a crystalline base that was common to all.

This clever suggestion was immediately acted upon. Under sterile precautions, biopsy specimens were removed, quickly refrigerated, and transferred in suitable containers to the laboratory of *H. biochemicus* who, though otherwise engaged, kindly allowed one of his most trustworthy lady-technicians (candidate for a Ph.D.) to make the determinations. To cut a long story short, she finally reported that, with variations so slight they could be excluded, the ash of all surgeons' hands is basically the same being composed of $CaSO_4.2H_20$, or what in the arts is known as parisian gypsum of surprising chemical purity. Therefore, as Euclidian geometers and Humanists would say: *"Quod erat demonstrandum."*

Now this investigation might have been pursued further by a similar comparative analysis of the hands of *Homo medicus,* but to his species the same exact and precise methods were inapplicable. In the first place, he could not be lured into Signor Caproni's shop, even under the pretense of viewing this or that Venus—he saw plenty of 'em on ward rounds. In the second place, this control study seemed scarcely necessary for both Cuvier and Othniel Charles Marsh, after much grubbing in the tertiary gravel, had made it clear that *H. medicus* is five-toed and represents the ancient, and hitherto unrecorded, primitive form of Eocene man; whereas *H. chirurgicus* in the early Quartenary had developed a splint bone, which has had much to do with his selective superiority. There indeed is abundant evidence to show that from times most remote he has found it useful in his trade of immobilizing fractures.

Obviously with factual data of this convincing sort in our possession, a control study was a mere waste of time, for the deductions could be drawn by any laboratory technician familiar with a slide-rule and accustomed to measuring intake and output in mgm. per cent. While *H. medicus* was obliged to admit the truth of this argument, he nevertheless proceeded to issue a minority report in which it was asserted, on anthropological grounds, that a doer with his hands is a retrocessive type compared with a thinker with his brains. He demanded consequently that comparative measurements be made of the intracranial volume of the two species; for in this way, and in this way only, could the true index of encephalic superiority be determined.

Though the vote was close, this disturbing proposal was blackballed on the third ballot after it had been pointed out that even though the frontal cortex of *H. medicus* may in certain instances be larger and show deeper sulci, not to speak of its gyrations, *H. chirurgicus* has a magnificently developed pre-rolandic motor area which takes up just as much room*. Furthermore, should one progress in the usual fashion from morphology to the study of function, there is abundant experimental evidence to show that both species exhibit no determinable alteration of behavior when completely deprived of their frontal lobes; but should, on the other hand, the motor area be removed from *H. chirurgicus,* he is as nothing, whereas *H. medicus* gets along just as well as before. So again: *Q.E.D.*

Now in the passage of geological time, *Homo chirurgicus* who formerly was content to nibble at, and occasionally to lop off, the external parts of the body under the direction of *H. medicus internus,* has gradually become more internal

*In this connection Prof. J. F. Bolton and his co-workers have recently demonstrated that the spider-monkey has a large cortical representation for his prehensile tail known as the arboreal behindhand.

than *H. internus* himself. Indeed, as a "looker-in" on slight provocation he can scarcely be excelled by *Homo pathologicus*—a subspecies of doer, of whom mention has not heretofore been made, though he is a very important check on *H. chirurgicus* during his occasional recurring periods of aerophagic self-inflation.

Naturally enough, *H. chirurgicus* first began by looking in at what *H. poeticus* has called the windows of the soul. This was harmless enough and easy enough, for the blinds are rarely drawn. He started as a mere window washer but it wasn't long before he began to see things his digits impelled him to remove—an imprisoned eyelash, a cinder from the communal fireplace. He even learned to evert the upper blind in his search for these foreign bodies, and it was not long before he saw something opaque and white behind the glass which was impeding his view of what lay beyond. So he set to work to fashion a tool with which he could manage to pry it out. His fame spread so rapidly that all those who experienced any difficulty in seeing through their windows from inside began coming to him in increasing numbers and he learned much as he went along that was new and unrecorded. So he set it down in manuscript and disciples of the new learning wore a path to his cave, and finally, not long after his invention of the lorgnette, he emerged as *H. chirurgicus (subspec.) ophthalmicus*, the first, capable of leading an independent existence, to bud off from the parent chirurgical stock.

But it was not for long that he was the only separatist. Certain representatives of *H. chirurgicus* soon began peering into holes that had neither windows nor shutters—notably noses, mouths and ears, for they also were accessible, convenient and required no time-consuming removal of garments. Long before the advent of *H. c. (subspec.) ophthalmicus*, a buccal claim to which he had acquired legal rights, had already been staked out by *Homo dentarius*, a maverick with no ancestral relation even to *H. medicus generalis*—or if he had, it was so long ago it's been forgotten when. Though his digits have not been fully studied, a brief note regarding them will be found in Appendix 14, where mention is made of the prehistoric traces of his highly ingenious inlays on the incisors of Assyrian pundits in the Stone Age.

Until recent times, *H. dentarius* lived somewhat apart and was reached by taking the stairs, but ever since he carved out of *lignum vitae* a double set of ivory dentures for the Father of his Country (now in the National Museum—*i.e.*, the dentures), his social importance has begun to be more fully appreciated. He has moved his place of business to the first floor front and and is no longer just an occasional puller and filler and rubber dammer as of old.

H. medicus internus, who dislikes all orifices and has never been known to go farther than to look at the protruded tongue and classify its coats, has begun to show such regard for *H. dentarius* that should you happen to have an obscure rheumatic ache you will first lose your impacted wisdoms and subsequently all others you have left—at one sitting under gas—unless you are unusually strong-minded. With this medical backing *H. dentarius* has driven *H. chirurgicus* almost wholly out of the mouth, stopping, like the Japanese in Manchukuo, only at the Great Wall of the fauces. And though he has been temporarily obliged to go off the gold standard, his exports and imports are well balanced, and should you desire to have your maxilla or mandible artistically exchanged for something else, he's your man.

All this has proved highly embarrassing to *H. chirurgicus (subspec.) laryngologicus* who must cross Manchukuo to get at what he wants south of the Wall. He still holds claim to the nose and its accessories but you can't easily set a snare for the tonsils through the nostrils, much less view the vocal cords and explore the bronchial tubes for inhaled peanuts†. Like enough any day *H. dentarius* will claim he's a bandit and on a pretended foray go south of the Wall himself and remain there. And what, pray, would the League of Ethics and Discipline have to say to this? The tonsils certainly have in the past shown no capacity for self-determination.

Then there is *H. c. (subspec.) otologicus* who has acquired distinction as an expert looker-in at the ears. This side-door work is usually done from outside, but it is well known that when *Homo naso-laryngologicus* is not around, *H. otologicus* uses his private front-door openings and goes right through the house to put his blow pipe in the kitchen entrance of the *Ductus eustachii*. He can do this blindfolded by the sense of feel which shows he's been there fairly often.

He also has an advantage over all other lookers-in because he isn't obliged to work in the midline, and being ambidextrous can take his choice, East or West. And though he scarcely ventures so far from home as does his nose-dwelling colleague who spends his vacations fishing for diaper-pins in the Southern oesophagus, he too drills and quarries deeply and sometimes has even been known actually to insert his thumb in the *Encephalon* and say "What a good boy am I."

One peculiarity that has often been observed regarding both *H. otologicus* and *H. laryngologicus* is the fact that, not content with puttering

†*H. laryngologicus*, it may be recalled, was the first long-distance looker-in. He got the idea from a music teacher named Manuel Garcia, who, one quiet afternoon in 1854 succeeded for the first time in accomplishing the athletic feat of looking into his own windpipe and simultaneously remarking "Say ah." This utterance surprisingly enough is one of the important elements of the trick, though it doesn't always work.

in their small portals of entry, they must also show their expertness by peering at the same time through a small hole in a mirror, which must be a very difficult thing to learn. It is supposed to be a relic of the days when they had to wear something over their faces to conceal the expression of surprise when they hooked something they could land. Certain Arabic authorities dealing with early folkways have, to be sure, given a different explanation of the custom (*cf.* Appendix 39).

And there are other hole-and-corner subspecies of *H. chirurgicus*, of whose ways less is known for their expeditionary base is so far South it is necessary to cross the Equator to get there. Some of the early explorers were often unheard from for years and the accounts of their thrilling experiences, now found in only a few libraries, were privately printed either in Spanish or Portuguese—the male and female languages spoken in those remote parts of the microcosmos. To be sure, it is now possible for these venturesome spirits to keep in touch with civilization by wireless and the loud-speaker, but from all accounts, in view of the poorly charted coast and its beacons far between, one must be an exceptionally good mariner to reach his destination, more often than not by blind reckoning.

It is in the memory of living *Homos* that one of these southerly disposed workers, while looking for the New Atlantis, lost his bearings during an equinoctial hurricane and landed by mistake on the Isle of Omphalos which lies approximately half-way between the Pole Star and the Southern Cross toward which he was supposed to be headed. The rediscovery of this barren atoll offered a rare opportunity for a new specialty, not to be lost; and while certain ruins and inscriptions made it evident that some medical viking by name of S. Cabot, M.D., had been there before, the newcomer's priority was established in that beautifully illustrated preliminary account of the expedition published anonymously with coloured plates in the *Transactions* of the National Geographical Society for August 1896 (now out of print and a rarissimé of collectors).

It was shown in this treatise that the *Omphalos* (as it is now called for short) can be so easily and perfectly removed *in toto* that the subject afterward might well be mistaken for Adam—or for Eve (as the case might be). An additional advantage lay in the fact that all subsequent temptation to utilize the region for the induction of hypnotic reveries, as commonly practised in the Orient, would thereby be permanently removed.

The United Tropical Debuttonizing Company, Inc., with its main offices in Miami was promptly organized with several retired Naval Officers on the board. Stock was issued and by a successful advertising campaign what promised to be a very profitable business was launched. As is well known, with the outbreak of the Spanish War and the taking over of all naval operations by the Government, the popularity of the procedure waned and the company went into forced liquidation. In his detailed description of this episode in the "History of Our Times", Mark Sullivan points out that the only present reminder of it is the game of "Button-Button," which was set to music and was once as popular as "Sweet Adeline" and "Casey at the Bat."

While this was the last hope of *H. c. (subspec.) gynaecologicus* to establish a colony so far from his home base, the *Omphalos* is not, and never was, truly an orifice, whatever else one may say of it—and that is not much. Hence this form of beautification, along with face-lifting and other plastic arts which flourished during the mauve period, has always been regarded by all true lookers-in as something, of which the less said the better—at least until the ladies have left the table.

As will have been gathered from the lamentable episode of the U. T. D. Co. and its dissolution, *H. c. (subspec.) gynaecologicus* was no timid coast-wise mariner. In the course of his long search for the Northwest Passage by repeated soundings and palpatings, he had already established colonies throughout the lower venter; and it was a race to see whether he or *H. c. (subspec.) urologicus*, a rough and ready deep-sea fisherman, would be the first to reach the upper tidal basin and make a forced landing on the rockbound coast of the calyces—which is the Norwegian for fjord. And when they did finally arrive there neck and neck, it was found impossible in the dark, even after turning on the X-ray, to tell which calyx was the female of the species; and the matter is still in the hands of a board of arbitration for decision.

Now it was becoming all too apparent to *H. chirurgicus* that these (*subspec.*) hole-and-corner chirurgeons, who instead of just looking in were daring to penetrate, by air, land or water routes, into the ever deeper recesses of the body, would soon meet *in medias res*, as it is called, and unless he bestirred himself, or in sporting parlance "beat them to it," there would be nothing left for him but the arms, the legs, the neck and the back.

Even in these widely separated outlying districts there was trouble brewing. A fellow called *H. orthopaedicus* who was clever with weights and pulleys and claimed to be a natural born bone-setter had suddenly discovered the possibilities of doing business with the skeleton. There was no special menace in this for *H. chirurgicus*, who, while perfectly aware of the skeleton, had shown no particular hankering for it. Anyone, who would cart it away, could have it for nothing so far as he was concerned.

But things began to take on a different as-

pect when *H. orthopaedicus* began to fool with the joints, claiming they were the hinges of the skeleton and went with it. In fact, in the sacro-iliac hinterland—a three-day journey from *Erehwon*—he discovered a joint which he could put in and out with a click, and though painful it became a popular resort in spite of the distance from home. Beginning with this obscure region back of the beyond, it was not long before he claimed complete supervision over the extremities "and all that in them is", including bones, joints, muscles and nerves.

While *H. orthopaedicus* never pretended to be much of a looker-in, he soon entered into business cahoots with a foreigner called *H. roentgenologicus* a homuncule whom *H. chirurgicus* had befriended, put up at his club, and introduced to the best people when he first arrived bearing German letters of introduction. But *H. roentgenologicus* had an evil eye which enabled him to look in almost anywhere without the necessity of having his own hole or being obliged to make one. While this peculiar gift was embarrassing to certain prudish people, it slowly came to be realized both by *H. orthopaedicus* and *H. medicus* that a power so unusual might be very useful to them, and these three are now inseparable; they rotate in the same seats at the symphony, and play a threesome together every Sunday morning.

It can be readily understood that *H. chirurgicus generalis* had begun to feel distinctly uneasy in regard to all these permanent squatters on the bad-lands of his ancestral preserves, which he had often shot over but never attempted seriously to cultivate. It was shortly after the appearance on the scene of *H. roentgenologicus,* and while the attention of the world was focussed on the afore-mentioned renal dispute between *H. urologicus* and *H. gynaecologicus,* that he roused himself and determined to do a little exploratory looking-in on his own account.

Shortly before this time, there had been rumors of popular discontent in a little explored and scarcely known region lying South-East of the *Omphalos* and vaguely indicated in the geographies as the *Fossa iliaca dextra.* Over this region *H. obstetricus,* a distant cousin of *H. gynaecologicus,* had claimed a quasi mandate ever since July 12, 102 B.C., when, during that chance encounter on the *Via linea alba,* he had the presence of mind to say:—"Mr. Julius Caesar, I believe." This claim *H. chirurgicus* had always regarded as a form of cisalpine gaul, particularly as *H. obstetricus* had rarely been there since and had engaged *H. medicus* superficially to patrol the region from time to time and act as his general factotum. So it proved a simple matter, by the distribution of some purgative propaganda, to stir up a revolution in the *Fossa* and to make this a justifiable cause of chirurgical intervention.

While a full account of this episode will also be found in an Appendix, it may suffice to say here that *H. chirurgicus,* having once forced his way in during a mid-winter campaign (since known as "the attack *à froid*") and having consolidated and quieted this area by drastic measures, soon found himself obliged, owing to unsettled conditions in the neighborhood, to extend the campaign in order to protect his flanks.

The successful storming of that ancient icteric fortress, the *Ductus communis choledochus,* after a prolonged siege ending in a surprise attack by way of the gallbladder occurred, if one may believe the historian Sudhoff, in the last decade of the XIXth century A.D. Then in turn, one after the other, fell the pylorus, the spleen, the pancreas, and other strongholds (too numerous to mention even by their colloquial names) that lay scattered here and there in that vast and turbulent continent south of the great *Diaphragma*—more generally speaking, between wind and water. The Thirty Years' War, which lasted almost an equal length of time, was as nothing in comparison with this; and though after each successive bombardment the hospitals were put on emergency-expansion basis, and the chirurgical teams worked on sixteen-hour shifts, it was a war to end all wars and worth the price. " 'Twas indeed a famous victory," quoth little Peterkin.

Ever since those hectic days when history was being rapidly made, the great terrain so successfully wrested from *H. medicus* has been held by right of occupation. This does not mean that it has remained entirely pacified, for what are known as recurrent attacks are frequent and are likely to keep up for some time. In view of the rebellious, not to say inflammatory nature of the inhabitants, egged on by that secret revolutionary body, the Society of Internal Secretions which instigated a succession of antiperistaltic movements, one perhaps could scarcely expect that law and order would everywhere prevail even under the obviously beneficent rule of *H. chirurgicus.*

The chief source of recurrent trouble has lain in the fact that when the treaty of peace was signed *H. medicus* was permitted to retain what is commonly known as a Polish corridor. This has given him a southern outlet to the Adriatic where he has built up so profitable an export trade in diuretics, nitrates and other saline products, the traffic of *H. c. (subspec.) urologicus* has been nearly ruined and he now ekes out a miserable existence wholly under water, diving for oysters and pearls. It is entirely due to this lack of political foresight, as Walter Lippmann has pointed out, that *H. medicus* thus manages to balance his budget and even to pay an income tax, which just now is unusual for medical *Homos* of any sort or class.

Warned by these troubles on the Italian border and to protect himself against a possible rear attack from the hepatic area over which

H. medicus has continued to maintain a certain authority, *H. chirurgicus* has been obliged for military reasons to storm the wind-swept heights above the diaphragm. Under the pretense of once more opening up the ancient drains from the pleura for sanitary purposes (*cf.* footnote)*, a mobile force known as the T. E. F., heavily armed with modern osteoclasts, was dispatched in caterpillar cars along the old *Via mammillaria* used by the Roman legions as the more direct approach to the upper pectoral border. Arrived there and before any effective opposition could be organized, a large portion of the thoracic wall was blasted away and an advance guard wearing gas masks entered through the breach, quickly set up a positive-pressure chamber, and securely entrenched themselves within.

From this point of vantage, frequent raids have been made by the T. E. F. up and down the mediastinal pathways in the course of which so much plunder has been removed it has been necessary for the engineers, at great expense and labor, to collapse the entire easterly wall of the thorax almost obliterating their very base of operations.

All this was quite contrary to the intentions of *H. chirurgicus generalis* and orders were consequently issued from his headquarters in the R. I. F. for the recall of the expedition. Whereupon with their osteotomes the T. E. F. severed all lines of communication with the outer world by dividing both phrenics and set up an independent satrapy of their own under the name of *H. c. (subspec.) thoracicus* with the insolent slogan: "*Venimus, Vidimus, Vicimus.*"

It has been rumored that in some of their forays for the capture of clots in the pulmonary arteries, they have occasionally met *H. c. (subspec.) naso-laryngologicus* on one of his peanutting expeditions from the North. He has usually retreated after a brief scrimmage, being unaccustomed to the sound of heavy artillery, preferring to leave the question of his mandate to the League of Organs.

Meanwhile, not satisfied with paralyzing that international boundary the *Diaphragma, H. c. (subspec.) thoracicus,* with complete disregard for others, while executing some of his more complicated manoeuvres along the *Chordae tendineae,* has had the effrontery from time to time actually to stop the heart. All this has been simply incredible to *H. medicus internus,* who has been listening to the fracas from behind the scapula through his binaural stethoscope, and he says: "What *are* we coming to?"

Nor is this the end, for something almost worse than this, I hesitate to say, has happened well within the Arctic Circle, in what formerly was a sort of No Man's Land, sparsely inhabited by aimless and harmless Esquimaux known as *H. psychologicus sive psychiatricus.* From certain crania found embedded in the ice, it has been learned that even in the days of the hairy mastodon certain preglacial and stone-age representatives of *H. chirurgicus* had practised there what was known as trepanning, by scratching holes with a piece of flint in the heads of those who harbored evil spirits—or thought they did—and were willing to take the chance. *H. psychiatricus,* at all events, had probably given the diagnosis up by that time, or he may indeed have actually referred the case, and suggested splitting the fee, thus originating an intolerable custom it's been difficult to eradicate. But this of course is only a guess and we must stick to what is factual.

And the facts of this sorry case are that even before *H. c. (subspec.) intrathoracicus* broke loose from the control of *H. chirurgicus,* an expeditionary force equipped with two-handed weapons of powerful biting type had embarked on sledges for the Far North where they have permanently ensconsed themselves in their artificially lighted igloos under the banner of *H. c. (subspec.) neurochirurgicus.*

They were a motley crew at best, miners and sappers, donors and suckers, embryogenic differentiators with their freezers, fixers and cutters, orderlies and disorderlies—one of them a top-sergeant who had seen service in several wars and knew all about motor-driven battering rams no calvarium could resist. What manner of mischief they may be up to is scarcely known even to their nearest neighbors, the lookers-in at nose, ears and eyes, and it's perhaps just as well to forget about them and to let them frappé in their own frigid clime.

The rumor has been circulated that they have already split into three political parties, Central, Spinal and Peripheral. The last, having communistic tendencies, sit on the left and so continuously utter their peculiar party cry of "Sympathico-tonus, rah, rah, rah!" it is exceedingly difficult for the temporary presiding officer, who happens to be a conservative Centralist, to keep any semblance of order—much less to get any business done.

Now *H. chirurgicus generalis* lives in hope that he is at last done with all these separatist movements on the part of his subalterns, for he is busy enough in more temperate, not to say tropical, zones holding *H. medicus generalis* at bay. For the latter has made a powerful ally of that very Homo, *H. biochemicus,* who generally shuns intercourse with others, feeling that he has lost caste since the tutorial student induced him to have that historic study of chirurgeons' hands made in his laboratory.

There is a constant threat that through this political alliance much hardly won territory in the venter may be lost; for should the local

*This under treaty provision *H. chirurgicus* had long been accustomed to do, but only on the behest of *H. medicus* when his efforts to secure drainage with a rusty hypodermic needle had proved unavailing.

anesthetic used in the outlying regions happen to wear off, a revolution might be fomented which could easily spread and get out of hand. Should this occur, *H. chirurgicus* might be driven back to make a last desperate stand behind the *Fossa iliaca dextra* which in all these years has been so thoroughly emptied and drained it no longer affords so good a protection as it once did.

From this brief historical sketch, it might be gathered that all this shifting of boundaries is something peculiar to our own turbulent times. History, however, but repeats itself and the rising sun sees no occurrence it has not seen before—as someone seems already to have said better and more briefly. In the remote dawn of recorded time, as long before Hippocrates practised his Art in the Temple of Cos as we practise ours after him, an unknown Theban scribe sat himself down in the upper valley of the Nile to make in cursive hieroglyphs a copy, for someone, of a papyrus roll which, to judge from its terms and phraseology, may already have been a thousand or two years old.

The original text may well enough have been contemporary with, possibly even written by, that deified Egyptian, the venerable Imhotep, medical adviser of the Pharaoh and much else besides. That would be some five thousand years ago, taking us back to the days when the pyramid of Gizeh was in process of erection—alongside of which our most ambitious structures of steel and concrete of the present day are as pigmies.

So in a world already old, and with civilization at its unmistakable peak, the scribe on his twelve carefully united sheets of well-chosen papyrus, partly in ink which was black, partly for rubrics in ink which was red, began to copy line by line the text of a medical document whose antiquity is such as to make the Hippocratic codices seem almost a product of our own times.

Why and for whom the copy was being made, and why the transcription was left incomplete, ending as it did in the middle of a sentence, is as unknown as are the names both of author and transmitter. But there is enough of it to show that the original was written by an observer who at that early time, fifty centuries ago, had broken away from the superstitions which even to this day encumber the progress of medicine.

He has set down what observation and experience had taught him, probably much of it in time of war for he was a surgeon and his treatise, which was illustrated by fifty-eight case reports, dealt principally with wounds. In a truly scientific spirit, after a brief statement of each case, he gives the history, the results of his examination, and by an inductive process proceeds to his diagnostic conclusion and the recommendations for treatment should intervention of any sort be advisable. Nor does he hesitate to include the sixteen cases unfavorable for therapeutic measures, and he specifically points out when natural processes should be allowed to run their course without meddling.

The treatise begins methodically, in true scholastic fashion, with the description of the head, goes on to the thorax and then to the spine and dorsal region where the copy comes to its abrupt end; but had it gone farther, the venter, the pelvis and the extremities would have followed in turn. This downward progression from head to foot has been the classical method of presentation ever since that time, and Heaven only knows for how long a time before. Toward the close of what we absurdly call the Middle Ages and reckon as long ago, it was the method followed by William of Salicet, by Lanfranco, by Henri de Mondeville, by Guy de Chauliac; and in a recent textbook by a certain *Homo* yclept Homans from our very midst, it was still being followed.

How much of this was the obvious method and how much of it merely tradition is impossible now to say, for the roots of tradition lie deep in all of us and while we go through the motions of periodically freeing ourselves from its presumed shackles, we only imagine that we wholly succeed. Records based on observation have an enduring value that transcends all our social philosophies and the doer merely does over again—always a little better, we would like to believe—what someone has done before and someone else before him.

From the beginning when men have quarrelled, they have armed themselves with the nearest thing at hand—a chance club or a boulder; and the most vulnerable thing to hit, if one could, has always been the head. Were the blow not fatal, some third party learned to bind it up; and when men fought in groups and wounds were many, learning came faster for those already adept, and so the chirurgeon emerges.

Unlike the priest-physician, the chirurgeons may well enough from the first have been reckoned as combatants who like Podalarius and Machaon happened at the same time to possess some measure of skill in the treatment of wounds. But the wars of which Homer sang bred pestilential diseases even as they do today. Then as now, it was not all dressing of wounds. While the gods were being propitiated, camps had to be drained, pure water and proper food provided, the diseased segregated and evacuated. We may flatter ourselves on knowing more, but the general problem was, is, and always will be the same. And after the lapse of a few centuries—much less fifty—what, pray, will be

thought of us, now so proud of our vaunted accomplishments?

Both physic and surgery arose from the necessities of life and whether the surgeon arrived already differentiated or was a physician turned specialist is less important than the fact that he was always a better surgeon if he was a good deal of both. In his special line, observation and reasoning were born of realities and as he was often called upon in emergencies, causes and results were usually self-evident. He has had less inclination and scant time to speculate on the phenomena of disease and to philosophize about the bearing of the four elements, fire, air, earth and water, on symptoms that were hot or cold or dry or moist, and on the relation of these to phlegm, blood, yellow or black bile, not to speak of the complexions. He probably couldn't see what all these doctrines had to do with the practical business of setting a fracture any more than his modern prototype cares to bother his head with prolactin, folliculin, intermedin and prolan B, to mention a very few of our present-day humours, which so markedly affect the temperaments and complexions of our patients.

But these ruminations are too serious for an occasion such as this, and the topic is scarcely a safe one for an *H. chirurgicus* to handle even with his rubber gloves. Even from a chirurgical operation, to withdraw may sometimes be the better part of valour. It was my intention to carry the session through under novocaine, but I see signs of restlessness and rather than put you fully to sleep it is perhaps wiser to postpone the rest for a second sitting—should you survive and be willing, of which there is considerable doubt.

So while "closing up," I may add that the only reason for harking back to Imhotep was to point out that even in his remote time *H. medicus* had the same richly convoluted frontal cortex he now has and *H. chirurgicus* showed the same propensity to fly off into numerous forms of specialization because of his expansive prerolandic gyrus. And should Imhotep return to us, one could guarantee that he would adjust himself in short order to all our newfangled devices and rituals and at the same time hold in reserve a good deal to teach us in the bargain.

And finally while adjusting the dressing and pinning the binder as comfortably as I may, it is unnecessary to remind you that as a class we chirurgeons often do things better with our hands, when our heads and hearts are not allowed wholly to govern our actions. For if I had permitted you to know, during the course of this operation, what was really in the back of my head and what lay deep in my heart to say to you, you would have judged me to be a sentimentalist rather than the eminently practical person which every *Homo chirurgicus* outwardly feigns to be.

THE PRESENTATION OF THE MEDAL

BY DAVID CHEEVER, M.D.*

President of the Boston Surgical Society

DR. CUSHING:—It is my privilege as President of the Boston Surgical Society to give you the Henry J. Bigelow Medal. Though you stand here among associates and other friends who do not need enlightenment, custom prescribes that there be made a brief citation of the grounds upon which this honor is bestowed, —a duty by no means easy, since an enumeration of your deeds would rival in length the catalogue of the ships! Would that I could discharge this duty with the happy phrases which on three occasions you yourself have used in honoring distinguished predecessors!

Born of New England stock transplanted to the Western Reserve, with the blood of four generations of physicians in your veins, you are claimed as a graduate of Yale, Harvard, the Massachusetts General Hospital and the Johns Hopkins Hospital. While laying a broad foundation for your work, you perceived the satisfaction that must attend mastery of a special field. The intensive study of the phenomena attending an injury to the spinal cord introduced you to the fascinating problems propounded by the normal and pathological physiology of the nervous system; and a year of study with Kocher and Kronecker in Berne and with Sherrington in Liverpool confirmed your conviction that the manual therapeusis of the surgeon,—admittedly becoming supreme in the field of medicine at large,—could be applied to some, at least, of the problems of neurology.

The field you selected seemed unpromising. Your honored chief, Halsted, advised against your entrance into a specialty so limited that it could not be expected to afford a living, pointing out that in the twelve years of existence of the Johns Hopkins Hospital but twelve patients with brain tumor had been admitted to the surgical service, and that most of these had defied

*Cheever—For record and address of author see "This Week's Issue," page 962.

diagnosis until the too tardy revelation of a necropsy. Surgical attacks on the central nervous system had been confined,—with rare exceptions,—to timid prickings of the meninges and ventricles and fearful intrusions of the privacy of cerebral tumors through the peephole of a button-trephine. The thirty years of your intensive study have shed a flood of light into these dark recesses. A surgeon of France, Lucas-Championnière, once said that all of surgery consisted of two epochs—that before Lister and that after Lister. It would scarcely be an exaggeration similarly to define your relation to neurologic surgery, though you would be the first to deny the soft impeachment, and to press the claims of Godlee, of Macewen, of Keen and above all, Victor Horsley.

These thirty years, and especially the later score since the founding of the Peter Bent Brigham Hospital enabled Harvard to recall you to their mutual service, have witnessed the inoculation of successive classes of medical students with your enthusiasm and your fertile teaching. You would not wish me to say that you have established a new school of surgery, for your appreciation of historical perspectives would insist that the edifice of Medicine, since the days of Hippocrates, has been laboriously built, stone by stone, by countless devoted workers, each contributing so far as in him lay, to the edifice, —magnificent but eternally unfinished,—which we know today. Long periods, centuries even, of stagnation have occurred; many of the builders' stones have been rejected as unfit, but from time to time a genius,—a Vesalius, a Paré, a Harvey, a Hunter, a Jenner, a Pasteur, or a Lister, through a discovery of some imperishable truth, has added an enduring buttress to support the structure.

Whether the stones which you have contributed will stand the scrutiny of Time is for posterity to decide, but no captious historian can change the things we know. In 1904, in prophetic vein, you said: "It is not improbable that a diseased pituitary body may sometime be successfully attacked", and five years later you operated for the first time on a pituitary tumor causing acromegaly. Since then, largely through your clinical observations and operations, and through the experimental work of yourself and associates the concept of this "organe enigmatique" of Van Gehuchten has been changed from that of a vestigial affair of no importance, to the veritable master-gland of the endocrine series, with functions and inter-relations of overwhelming importance in the maintenance of physiological equilibrium. If the treatment of its diseases has availed chiefly to cure or mitigate blindness and other grievous neighborhood pressure effects, it is not to be doubted that, based on the foundation that you have laid, it will emerge in time from what you describe as the present "stone age of its development". In the field of new growths of the brain and its coverings, you devised a method of purposeful decompression which saves vision and yet avoids a disastrous hernia cerebri; your unmatched technique permitted a hitherto undreamed of invasion of forbidden recesses, to enable you to remove two thousand tumors. Less spectacular, but deserving no less gratitude from victims whom your skill relieved of diabolical pain, was the perfecting of a method of removal of the Gasserian ganglion, with negligible mortality. And always these laborious operations, undertaken primarily for the relief of suffering and invalidism and to avert or postpone death, have been twice fruitful in leading to the solution of problems of brain function, of the secretion and circulation of the cerebrospinal fluid, and the demonstration of hitherto obscure centres of vital processes.

You have on occasion characterized the ideal teacher, saying that his influence should be centrifugal, that his own ideas are far less important than those which radiate from his pupils. You were in accord, evidently, with Bronson Alcott who said: "The true teacher defends his pupils against his own personal influence. He inspires self-trust. He guides their eyes from himself to the spirit which quickens him. He will have no disciples." To this ideal, happily for the world, you could not strictly adhere, since the offspring of your brain have not been matched by those of your pupils;—yet equally is it true that perhaps your greatest contribution to human welfare is the establishment in this country and in Europe by your pupils of centres of neurologic surgery where the experience acquired in your clinic is re-distilled for the benefit of ever-widening circles of humanity and where your ideas, fertilized by younger minds continue to increase the scope of human knowledge.

Somehow in your busy life you have found time to indulge your love of the humanities. You are a bibliophile and have assembled a notable library, whence the stimulating traditions of medical history have seeped by way of your talk and writings into the minds of those about you. Two hundred and fifty titles scarcely comprehend the total of your contributions to medical and lay literature,—papers whose scientific importance is equalled by a fertility of imagination and a charm of literary style which makes their reading a double pleasure. And then your admiration for one of the greatest figures in contemporary medicine led you, in recording imperishably the life of Sir William Osler, to write one of the greatest of medical biographies.

Mention of your war record may not be

omitted. That eventful day in April 1917, found you already convinced by previous service with the American Ambulance in France, that our ultimate entrance into the war was inevitable and that serviceability would be in direct proportion to preparedness. Base Hospital No. 5, under your directorship, was one of the first military units of the United States to reach France, and the first to suffer casualities at enemy hands. Under your leadership as Major, Lieutenant-Colonel and Colonel, first attached to the British and then to our own troops, it gave notable service; in due course you were detached and appointed Senior Consultant in Neurologic Surgery; like many another you were stricken,—not on the battlefield but no less in the course of duty,—by illness which left its mark, as indelible as wounds. Haig mentioned you in dispatches,—Pershing cited you; grateful Governments recognized your services,—Britain made you a Companion of the Bath, France created you first Chevalier and then Officier de la Legion d'Honneur; Congress conferred on you the Distinguished Service Medal.

Seats of learning, old and young alike, have honored you by enrolling you among their foster-children; learned societies almost without number have offered you fellowship:—from England, Ireland, Scotland, France, Sweden, Belgium, Peru, Hungary, Poland, Cuba, Switzerland, the Netherlands, from a score of Universities in your native lands,—and last but not least from the two which make rival claims to be your veritable Alma Mater, have these honors flowed; three Continents have filed liens on your fame; only inscrutable Asia, darkest Africa and the Antipodes are silent!

How now may this modest group in Boston presume to add to these tributes? At least we might have taken pride in offering you your first gold medal, but a relentless Fate, in reconstructing a shattered world, has ordained that this precious element must,—in trade at least,—lose its pristine value. But this medal is a symbol—not of a trade, but of a splendid profession; its exquisite workmanship typifies the consummate perfection of your handicraft, and the metal of which it is composed, which does not tarnish or corrode with age, symbolizes the changelessness of scientific truth, for which you have striven. And we dare to believe that among your honors it will not rank least, because it will always remind you of our admiration and affection.

DR. WALKER: This meeting of the Boston Surgical Society is now adjourned.

NEW ENGLAND PEDIATRIC SOCIETY

MEDICAL SUPERVISION OF NORMAL CHILDREN UNDER SCHOOL AGE*

Modern Concepts of Its Scope

BY HAROLD C. STUART, M.D.†

IT is impossible to discuss intelligently plans for the medical supervision of normal children, or to criticize the conduct of child health services, without a clear idea of the purposes for which they are provided and of the procedures which they necessarily involve. It is inconceivable that a Society such as this should approach the problem of health service from any other standpoint than that of meeting the needs of children in the best possible way. I have, therefore, been asked to open this evening's discussion with a consideration of what these health needs are. My task has been made somewhat easier by limiting the subject to those services in which a physician should participate, and to those required between birth and entrance to school.

The modern concept of child health service has grown out of two rather independent movements. First, as a result of the development of pediatrics as a specialty of medicine, there has grown up what is commonly referred to as the practice of "Preventive Pediatrics." Secondly, in connection with the broad public health movement, there has developed a special field of activity in behalf of the child, usually called "Child Hygiene." Preventive Pediatrics and Child Hygiene have the same objective for the individual child, namely, the greatest possible protection of his health. Child Hygiene is also interested in extending this protection to the child population. Both must seek their ends through application of the same fundamental knowledge and by making use of the procedures which alone can attain these ends. The health conference has been one of the principal means used by Child Hygiene agencies for accomplishing these ends.

The health conference started as a milk station or feeding clinic, but it has been transformed into an educational and advisory center where regulation of feeding and diet merely takes its place among many services which attempt to secure intelligent care for the children who attend. Unfortunately, however, the old concept still clings, and one frequently hears Child Health Conferences referred to as Feeding Clinics.

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THE SERVICE TO BE OFFERED

In undertaking to direct the care of normal children with the idea of protecting and promoting their health, the physician is accepting a broad responsibility. He is not merely offering to answer questions and to provide such preventive services as the mother specifically requests, but he is obligating himself to see that no health need of the child is neglected, and that disease is prevented whenever possible. Specifically, this includes the following objectives:

(1) To assure ample provision of requirements. By ample is meant sufficient for the particular child and not merely for average children. Requirements do not merely refer to food needs but to all of those things for which the child is dependent upon the outside world.

(2) To detect congenital or acquired defects, abnormal tendencies in growth, and early signs of disease; and to secure prompt and adequate medical care for any of these when required.

(3) To observe mental growth and to guide habit training, and to secure appropriate attention for undesirable tendencies in either of these.

(4) To establish safeguards against infection both by advice as to care and by use of recognized preventive measures at the appropriate time.

It is doubtful whether a physician should accept such a broad responsibility until he has familiarized himself with the needs of children at various ages, and is prepared to devote the time and thought necessary to know the particular child and to take the initiative in his health protection.

A first essential of health service is that it be based upon a thorough knowledge of the individual child, including his background and his environment. This is made necessary by the wide variations which exist between individuals, and the consequent differences in requirements. The routine prescribed must be outlined along lines suggested by individual findings, and must be modified from time to time in the light of observed progress. This is the chief reason for a physician's participation in rendering this service; otherwise, lectures, literature, and nurse's demonstrations would amply fit a mother to look after the health of her own child. This calls for direct personal contact between a

suitably trained and interested physician, one or preferably both parents, and the child. A relationship of confidence and coöperation must be established among these three parties if the undertaking is to be successful. There must be time and facilities for securing and interpreting an adequate health history, and for making a thorough health examination. A knowledge of the home and family is best secured by personal contact with the home itself, but a nurse's visit may serve for this purpose. There must be an opportunity for giving the mother detailed instructions, and for directing and stimulating her efforts to fit herself better for parenthood. There must be facilities for giving the usual preventive inoculations and such recording system as will avoid their oversight at the proper time.

The frequency of visits must vary with the intelligence and experience of the mother and with the age and individual needs of the child. The following routine conforms with present standards and may be used in planning for the care of a newborn baby. It should not be abbreviated just because a child "seems so well", but it may have to be augmented by additional visits. Complete examinations should be made at birth, at the end of the second or third week, at the age of three months, every three months until the second birthday, and every six months thereafter. Additional visits for "check-up" and advice should also be made at monthly intervals throughout the first year. Vaccination and diphtheria immunization should be carried out routinely at these regular monthly visits during the second half of the first year, and do not require special additional visits.

THE HEALTH HISTORY

Time will not permit a detailed discussion of the health history. It is the most important and valuable guide to the preventive measures needed. The physical examination tells what is already wrong, often the results of poor care; the history tells what is likely to develop. It is difficult to make this history complete and accurate at the first visit; the true picture of affairs can best be pieced together by keen questioning and observation at repeated visits, so that interval histories are important. The history should constitute a continuous record of the child's health and should include the following topics:

Hereditary or familial health tendencies.
Health of household, especially of mother, nursemaid, and siblings.
Pregnancy, labor, and delivery.
Condition at birth and during adjustment of early days.
Feeding history. Not only content of feedings, but quality of milk and other foods, accessory foods; regularity and method of feeding, and habits of taking food.
Sleep and rest. Play and activity.
Bowels, bladder, and other fundamental health habits.
Physical environment including sunlight, fresh air, cleanliness, and temperature and humidity of nursery.
History of physical development, with such items as gain in weight.
History of mental development, including nervous and emotional reactions and mental hygiene. Nature of environment in these respects.
Attitude and competence of mother.
Conflicts or interference in home.
History of illnesses and exposures to infections.
Previous prophylactic inoculations.

THE HEALTH EXAMINATION

This is fundamentally different in emphasis from the physical examination in illness. It should always include the routine search for disease, common to the examination conducted during illness. There should be a constant effort to discover the earliest signs of disease. During the early months it should include a careful search for congenital defects and thereafter for postnatal or acquired defects. It should include a careful appraisement of the progress in growth and development, in order that routine and diet may be adjusted to individual needs. It is chiefly in this latter respect that the health examination differs from the regular medical examination and it is because of this that knowledge of the normal course of growth and development is so essential. It is progress rather than status which should focus attention in this connection; and function should be considered as well as structure. The way a child uses his muscles, for example, is more significant than their size. The physician should be able to recognize and should record evidences of faulty mental growth as well.

It is not desirable to adhere strictly to a routine order in the examination during these early years, but rather to make observations when and as opportunity offers. But to avoid oversight of important items, a suitable record form should be routinely filled out. Records must be simple but comprehensive and informative. They should give some idea of the kind of child being dealt with and adequately reflect his general state of health, and not merely give a series of items which will be difficult to interpret later.

Certain items take on particular importance

at certain age periods of which a few examples may be mentioned.

Young Infant:

Congenital defects.
Evidences of faulty functional adjustments or constitutional limitations.
Evidences of birth injury or congenital disease.

Late Infancy or Transition to Childhood:

Developmental progress and the use of the body in connection with new activities.
Evidences of deficiency diseases.
Progress in correction of mild defects or retardations previously noted. Have they tended to correct themselves or do they require surgery, special training, etc.?
Vaccination against smallpox and immunizations against diphtheria should be given between six and twelve months of age, and the Schick test should be routinely applied six months after the last diphtheria inoculation.

Preschool Age:

Dental Problems.
Habits and reactions.
Balance between rest and activity.
Posture including feet.

When one considers the amount of suffering and disability caused in later life by deformed or mechanically weak feet, and realizes how little attention it requires during the preschool years to prevent or correct these difficulties, the frequency with which physicians fail to have the shoes removed during examination, or even to look at them, is distressing.

Entrance to School:

There should be a careful review at this time of such subjects as the following: sight, hearing, foci of infection, adjustment, endurance, excitability, etc.

These may sound like an odd assortment of subjects for a physician to be concerned with, but there is no suggestion that he treat any condition found for which he does not feel fitted. If he is a community conference physician, he will not treat any of them. There are but three possibilities—either these subjects are going to be neglected until noticeable difficulty is discovered by the family, or every normal child is going to be taken from doctor to dentist to oculist to orthopedist to psychologist routinely (just in case something needs attention in any of these fields), or the doctor is going to serve in the true sense as a health counsellor. The first possibility is inefficient, costly, and occasionally results in preventable death. The second is absurdly impractical, and leaves the third as the obvious choice. Under this plan parents can rely on the physician's advice as to when the assistance of one or other of these specialists is needed.

INSTRUCTIONS TO THE MOTHER

Time spent over these is not time wasted, although often dealing with simple details.

Instructions should be simple, specific, comprehensive; and repeated and checked at subsequent visits.

Aid of literature such as that of the Children's Bureau*, and aid of nurses should be used in so far as possible for giving details.

CONCLUSIONS

To Summarize:

Parents need health counsel from time to time throughout the period from birth to school entrance, more frequently in the beginning, but available to the end.

This counsel cannot, except in broad outline, be culled from books or be provided for groups collectively. It must be individualized.

It must come from a physician, familiar with the characteristics, needs, and problems of normal as well as sick children.

It must be based upon a knowledge not only of the individual child, but of his background, his environment, and his reaction to them. This knowledge cannot be narrowly restricted to matters of health and illness, but should include a broad understanding of physical, mental, and emotional factors, of opportunities and handicaps.

It should be kept up-to-date by continuity in observations and observer, and should be planned rather than haphazard.

It should bear a close and understanding relation to medical care during illness and convalescence.

It may at first appear that any concept of health service which is both as broad and intensive as the one outlined would require an enormous amount of time and be totally impractical. It does represent an ideal which is rarely met, at least outside of the pediatrician's office. It can certainly not be accomplished in any haphazard way, such as trying to crowd a visit with a normal child into a busy afternoon of appointments with more urgent problems of illness. For practical purposes a definite period should be set aside for this service and kept just as free as possible from the interruptions of regular medical practice. If this is done, good service can be given on a fifteen minute appointment schedule in the office. This presupposes that no treatment of any disease condition found is given at the time, and that the physician has properly informed and trained himself, has equipped his office with efficiency in mind, and uses suitable record forms. It can

* "Infant Care," Publication No. 8, Children's Bureau, United States Department of Labor.
"The Child from One to Six," Publication No. 30, Children's Bureau, United States Department of Labor.

be done more rapidly in conferences where there is ample nursing assistance. With regularity of attendance and well-organized facilities, reasonably useful service can be rendered to about six or eight children per hour. Greater speed than this is undoubtedly accomplished with the sacrifice of quality.

It is not part of my assignment on this program to consider by whom or under what auspices this service may best be provided, but merely what it involves. I may be permitted, however, to draw the obvious conclusions to which this modern concept of supervisory care inevitably leads. The personal physician, familiar with home and family, the one who provides medical care in illness, has many advantages in providing health counsel. There are, however, many other considerations which in individual cases totally unfit him to do so, notably lack of knowledge, lack of time, or lack of interest. These reasons alone make it necessary to have other means of securing this service available in most of our communities; and the well-conducted health conference, divorced from considerations of medical care, is capable of meeting this need with reasonable satisfaction, although under some handicaps.

MEDICAL SUPERVISION OF NORMAL CHILDREN UNDER SCHOOL AGE. PRESENT EXTENT OF ITS APPLICATION*

BY PHILIP VAN INGEN, M.D.†

IT was with a good deal of trepidation that I accepted the invitation of your Committee to speak to you tonight. I appreciate very keenly how little I, or anybody else, really know about the subject. And also it is very difficult to make a subject interesting which is based on statistics. At this time when income taxes are on our minds, statistics are at best not very encouraging. But I will do the best I can and, as everything I have to say will be in explanation of graphs, perhaps you will be able to bear with me.

I have nothing original to present to you. What I have is based upon the studies made by one of the Committees of the Section on Medical Service of the recent White House Conference on Child Health and Protection. Much very valuable information as to the facilities for the protection of the health of children had been secured, and it was finally determined to undertake to get some facts as to the extent to which these facilities were made use of. A complete survey of the whole country, urban and rural, rich and poor, would have been almost as colossal a task as taking a Census of the country, and to tabulate and study the results would have taken as long as it does to get out Census Bureau statistics. A sort of cross section survey was therefore determined upon, and the attempt was made to find out the prevalence of Periodic Health Examinations, Dental Health Examinations, Vaccination against Smallpox, and Immunization against Diphtheria.

The Survey was confined to children of preschool age, under six, because of the great amount of health work done for the school child by public authorities, and also because of the limited time and funds. I shall confine my remarks to a brief description of those things which as physicians, and especially as physicians particularly interested in children, are within our province. I shall pay particular attention to the situation in New England, bringing in other areas for, I hope, helpful comparisons. I take it that the New England Pediatric Society is deeply interested in this very important function of the medical profession, which in many parts of the country has been neglected as a medical problem, and has therefore been taken over by Public Health authorities, and by others less competent to attend to it properly.

I have not included in my material that dealing with the dental health examination, because other than advising it, it is rather outside the field of the pediatrician and general practitioner. I shall confine myself to the statistics dealing with cities. Without further explanation I will plunge into my subject.

Slide 1. This Survey deals with 146,000 children under six years of age, living in 156 cities, mostly of 50,000 population or over, located in 44 states and the District of Columbia. As there were 208 cities approached, as either being of that size, or being the largest cities in the ten states having no city of 50,000 population, it represents 75 per cent and over of the whole number.

Slide 2. Let us take up the three subjects selected, one by one. First, Health Examinations. What proportion of the children under six had ever received a health examination? In the 156 cities the proportion varied from 82 per cent in Berkeley, Cal., to 11 per cent in Roanoke, Va. The median city, that is the one in the position half way between that which

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had the highest proportion and the lowest, showed 47 per cent. In a general way we can say, therefore, that in half the cities studied, practically 50 per cent or more of the children under six had received at least one health examination during their lives.

Los Angeles	67
Boston	64
Baltimore	64
Chicago	60
New York	58
Pittsburgh	52
Philadelphia	42
St. Louis	41
Cleveland	41
Detroit	30

Slide 3. I show you the graph for the ten largest cities in the country because in all three subjects considered the larger cities have a slightly higher proportion than the lower. While the median city for the whole group showed 47 per cent, if we divide the 156 into four groups of approximately equal numbers, according to their size, the median city for each group, from largest to smallest, shows 51, 47, 49, and 41 per cent of health examinations. I show it also because Boston is in the group. Los Angeles leads with 67 per cent. Boston and Baltimore stand second with 64. Chicago, New York, Pittsburgh follow, all above the median city mark. The others are below the median city.

Grand Rapids	68
Highland Park	57
Kalamazoo	56
Dearborn	39
Pontiac	39
Jackson	38
Saginaw	35
Hamtramck	33
Detroit	30
Flint	27
Lansing	22
Bay City	19

Slide 4. Let us take some section of the country, Michigan, for instance, and see how it stands. Of these twelve cities, only three are above the median city, the rest are below, and a few are very low. I have selected this group as typical of several states or groups of states, not because they make a striking contrast with the cities of New England. Pennsylvania is even worse than this and several of the Southern states also.

Providence	77	Hartford	53
Fall River	70	Brockton	47
Holyoke	69	Somerville	47
Newton	67	New Britain	45
New Haven	65	Springfield	44
Boston	64	Bridgeport	41
Stamford	62	Lowell	41
Portland	60	Lynn	34
Quincy	59	Pittsfield	34
Manchester, N. H.	55	Waterbury	30

Slide 5. What does New England show? You can see for yourselves. Providence shows a very large proportion of its preschool population to have had a health examination (77%). It is within five points of Berkeley, Cal., at the top of the whole list of 156, and stands second. Fall River comes next for New England, ninth in the 156. Holyoke is next and eleventh in the list. Eleven cities are better than the median city and two are equal to it. Seven do not show so well. Boston stands sixth among New England cities, and twenty-fourth in the total.

I.	61
II.	52
III.	48
IV.	41
V.	43

Slide 6. It is interesting in this connection to study the proportions according to economic status. I must explain what I mean by economic status. These children are chiefly public school children. The school authorities in each city sent us a list of their public schools graded according to their estimate of the general economic status of its pupils, according to the standards of that particular city. Grade I were those of the highest, Grade V the lowest economic status. Grade III was considered to be average status for that city. Grades II and IV stood approximately half way between the average and the highest and lowest respectively. Please remember that people of Grade I are not necessarily of equal economic status in all cities. It means that in each case Grade I represents the highest economic type of public school population in *that* city. I emphasize public school population because the workers started around the school, as near to it as possible, and worked away from it, and public schools are usually located as near to those they serve as possible. Approximately an equal number of families were interviewed in each district, and an equal number of districts were selected from each economic group, in order to insure a fair estimate for the city as a whole. In order to avoid any attempts to make a "good showing" on the part of the local workers by selecting areas, near health centers for example, the choice of districts was made by the Central Office, and was submitted to the local groups for their agreement as to its fairness as a cross section of the city.

It has been stated that the better to do and the very poor get the most health attention. The first part of that statement alone holds true here. There is a steady downward proportion as the children of the poor economic grades are reached.

I must make one other explanation. This graph states that it gives the percentages in the median city. It is really no city at all. It is a composite picture of the median propor-

tions in each economic grade for all cities. Thus 61 per cent for Grade I is half way between the highest proportion and the lowest in all Grade I districts, and happens here to occur in Waterbury. The 43 per cent for Grade V is half way between the highest and lowest proportions in all Grade V districts, and happens to occur in New Britain.

	I	II	III	IV	V
Columbus, O.	74	49	41	19	14
San Antonio, Tex.	18	21	31	20	55
Providence	78	74	80	76	63

Slide 7. These proportions do not apply to all cities in the country by any means. The chart shows three very striking and different situations. In Providence, at the bottom of the graph, there is comparatively little difference between the five economic groups, 78, 74, 80, 76, 63.

In Columbus the general trend as shown in the median city graph is tremendously exaggerated, 74, 49, 41, 19, 14. To him that hath shall be given—a health examination. In San Antonio, exactly the reverse occurs. It is the poorest who receive the greatest percentage of health examinations. Why is that?

Slide 8. There is a trend, similar to San Antonio though much less marked, for Boston, especially the relation between Grades I and V, 63 per cent—84 per cent. Why is that?

In general we may say that for the children of the public school groups throughout the country, about 47 per cent seem to have had some kind of a health examination before entering public school. How satisfactory that examination was is another question. The cities of New England for the most part make a good showing in health examinations for this part of the population. What the situation is for the so-called better classes, from which comes a large part of private practise, I can give you little information. This much I can tell you however. Among other things which the Committee tried to find out was what the pediatricians and those registered with the A. M. A. as being specially interested in pediatries, did in regard to health examinations among their patients. Many of you probably still remember that questionnaire. Of 2500 who answered, about 60 per cent said that nearly all parents appreciated its importance during the first year, but that after the second year the same proportion said very few did. These figures correspond with those from the physicians of New England who answered. About 60 per cent said they gave periodic health examinations to nearly all infants, but that after the second year the proportion fell to less than 10 per cent. Eighteen per cent frankly gave as a probable explanation of why more examinations were not made that they themselves had not urged it.

Coming now to our second subject, vaccination against smallpox. It is to be feared we are coming to regard smallpox as an almost extinct disease. One physician who admitted he did not urge vaccination for his patients added the note, "I have never seen a case of smallpox in Boston." May I just remind you of Woodward's article in the *New England Journal of Medicine* in 1930 in which he states that in the United States during the ten years 1919-1928 occurred 553,000 cases of smallpox,—an average of 55,000 cases a year. The Census Bureau figures for 1928 show only 131 deaths from smallpox, but 30 per cent were in children under five.

Slide 9. In the 156 cities the proportion of preschool children vaccinated ranged from 48 per cent in New York to 2 per cent in Winston-Salem, N. C. The median city was 13 per cent. Half of these 156 cities had only vaccinated 13 per cent or less, of their preschool children. Not a very creditable showing.

New York	48
Boston	37
Philadelphia	28
Detroit	24
Baltimore	24
Pittsburgh	19
Los Angeles	18
St. Louis	18
Chicago	13
Cleveland	8

Slide 10. Let us look at the ten largest cities again. New York at the top with 48 per cent, Boston second with 37 per cent, Los Angeles way down with 18 per cent, Baltimore half way down. All but Cleveland, however, are as good as the median city, or better. But 13 per cent for the median city is nothing to be proud of.

Why is it that when 67 per cent of the children in Los Angeles received health examinations, only 18 per cent were vaccinated? What became of the balance of those 64 per cent given a health examination in Boston? And of the 58 per cent in New York? I can tell you one reason why the children attending health centers in New York are not. Because they are referred by the center to the Department of Health. That's a long walk, with a baby.

Philadelphia	28	Erie	8
Scranton	21	Bethlehem	8
Pittsburgh	19	Lancaster	7
Harrisburg	14	McKeesport	7
		Chester	7
Reading	13	York	5
		Altoona	3
Wilkesbarre	12	Allentown	3
Johnstown	12		

Slide 11. What is the situation in Pennsylvania? Only four are above the 13 per cent of the median city, Philadelphia, Scranton, Pittsburgh, and Harrisburg. Reading has the median, 13 per cent. The other ten are below that and some of them woefully below it,—

York with only 5 per cent and Altoona and Allentown with 3 per cent.

Providence	40	Springfield	18
Boston	37	New Britain	18
New Haven	36	Waterbury	18
Newton	32	Portland	17
Stamford	31	Fall River	17
Hartford	25	Somerville	16
Bridgeport	23	Brockton	10
Holyoke	20	Quincy	9
Manchester	19	Lynn	9
Lowell	19	Pittsfield	3

Slide 12. And New England—well, that really is better. Sixteen of the 20 cities are over that dreadful 13 per cent. Only four below it, all in Massachusetts. And Providence, which headed the New England list for health examinations, is at the top again, standing third of all the 156 cities,—being passed only by New York and Yonkers. Boston, second of New England cities, is fourth of the 156; closely followed by New Haven, which is fifth for the complete list.

The median city for New England is 19 per cent as against the 13 per cent for that of the whole list.

Under 1	3
1 yr.	11
2 yrs.	17
3 yrs.	21
4 yrs.	28
5 yrs.	44

Slide 13. It is, I think, generally felt, by pediatricians at any rate, that the first year of life is the best time to vaccinate children. So far as I know, no case of encephalitis has been reported after vaccination at that age. Perhaps it is because of the small number of such children that are vaccinated at that age, as you see on the graph before you. As the school age approaches there is a great increase and in the sixth year the proportion jumps from 28 to 44 per cent. That that is due to compulsory vaccination laws is beyond question.

Providence	7
New Britain	3
Boston	2
Lynn	1
Newton	1
Pittsfield	1
Hartford	1
New Haven	1

Among the twenty New England cities, in only eight were any babies under 1 year found in our survey to have been vaccinated. Providence had 7 per cent, New Britain 3 per cent, and Boston 2 per cent. Lynn, Newton, Pittsfield, Hartford, and New Haven each had 1 per cent. Sixty per cent of the New England towns had no babies under 1 year vaccinated in the survey. The balance of the cities showed 58%. The southern states 63%. The smallest number of children under one year seen in any New England town was 68, and incidentally that was in New Britain, where 3 per cent of them had been vaccinated.

	4th yr.	5th yr.	6th yr.
Newton	17	71	94 ←
Stamford	26	60	92
Providence	38	51	86
Boston	33	67	83
Manchester	7	28	76 ←
Lowell	8	25	71 ←
New Britain	4	27	61 ←
Fall River	8	26	59
Portland	12	28	50
And by contrast			
Quincy	6	15	26
Brockton	12	17	20
Pittsfield	1	2	14

Slide 14. The sudden jump during the fourth, fifth, and sixth years is well shown in several of the New England cities.

These jumps are all very interesting, but compare numbers designated by arrows.

A realization of the importance of vaccination before entering school, or the enforcement of the law, or a combination of both in New England is interesting. In only five of the 20 New England cities were less than 50% of the children five years old found unvaccinated. The median figure for New England cities is 64%. For the balance of the cities the median figure is 27%. In New England 75% of the cities have vaccinated more than 50% of their five year olds, in the rest of the country in only 19% of the cities.

This is a very different picture from that in regard to Health Examinations, where the infant seemed to have the highest proportion.

I.	16
II.	13
III.	11
IV.	11
V.	11

Slide 15. As regards the economic status, we see again a higher proportion vaccinated early in life among the better to do, but the variation is not so great, 16 per cent for Grade I, 13 per cent for Grade II, and 11 for the other three.

Going back to the reports of the physicians as to their practise, 2 per cent admit they vaccinate only when requested, 55 per cent state they urge it during the first year. Nearly all parents are favorable toward vaccination at some age according to 82 per cent of the physicians. Among the New England physicians who answered, 61 per cent urge it during the first year as against 55 per cent for the whole country. Whether physicians do it themselves is another matter. Confidential reports from 350 full-time county health officers show that in many parts of the country physicians refer their patients to the county health officer for vaccination—and even in some cases send their own children there.

This is particularly true in the Southern States.

I think we may say that these facts indicate that if it is important to vaccinate early someone is falling down. It would seem that if it were not for the school regulations, a large part of the population would go unvaccinated. Would we gradually slip back to the conditions early in the nineteenth century when contemporary authors tell us that smallpox committed its chief ravages upon children two years of age; that one fifth of all children born died of smallpox before they were ten years old, and that one third of all the deaths of children were due to it? No, we certainly would not, but it is not surprising that 55,000 cases occur every year in the United States when in half of the cities 71 per cent, or more, of the children five years old are unvaccinated. In New England it is only 36 per cent, or about one-half of the proportion for all the cities surveyed.

Niagara Falls	50
Columbus, O.	1
Butte, Mont.	1
Median	14

Slide 16. Now let us turn to diphtheria immunization. Niagara Falls stands highest in accomplishment with 50 per cent of its preschool children immunized. Columbus, Ohio, and Butte, Montana, would seem to show the least interest, with only 1 per cent protected. The interest shown in Niagara Falls is rather startling, for only 6 per cent of these same children had ever been vaccinated. I can remember when the city of Niagara Falls was quarantined for a severe epidemic of smallpox. The median city shows 14 per cent, one point higher than for vaccination.

Niagara Falls	50
Syracuse	48
Yonkers	45
Rochester	44
Elmira	43
Schenectady	41
Utica	41
Albany	38
Troy	36
New York	35
Buffalo	28

Slide 17. I venture to show the graph for the cities in New York State as every city has a record at least twice as high as that of the median city. There has been a very vigorous campaign throughout the state and I think the figures show it. Interest has been shown not only by the Public Health agencies, but by private physicians, the county societies coöperating actively with the health commissioner. But it is a sad comedown for New York City, after standing at the very top of the list to be passed by every city in the State except Buffalo, and standing seventeenth among the cities surveyed.

Detroit	40
New York	35
Philadelphia	27
Chicago	23
Baltimore	19
Los Angeles	15
Boston	15
Pittsburgh	15
Cleveland	10
St. Louis	10

Slide 18. There may be a crumb of comfort perhaps when we look at the situation among the ten largest cities. All but two of the cities, Cleveland and St. Louis, are above the median.

Kansas City, Mo.	28
Springfield, Mo.	20
Topeka	17
Minneapolis	16
Kansas City, Kan.	14
St. Paul	13
Cedar Rapids	13
Fargo	12
Sioux City	12
St. Louis	10
Omaha	9
Des Moines	9
Wichita	8
St. Joseph, Mo.	6
Davenport	4
Duluth	3
Sioux Falls	3

Slide 19. Let us see what is being done for immunization against diphtheria farther West, in the group of states called the West North Central group. Here are only four cities above the median city, Kansas City, Mo., with 28, Springfield, Mo., with 20, Topeka with 17, and Minneapolis 16 per cent. Kansas City, Kans., ranks with the median city at 14 per cent. The other twelve are below, three being very low, 4, 3 and 3 per cent.

New Haven	46
Fall River	35
Quincy	31
Holyoke	29
Bridgeport	29
Providence	25
Lowell	21
Portland	17
Boston	15
Stamford	12
Newton	10
Hartford	9
Brockton	5
Springfield	5
Lynn	5
New Britain	4
Pittsfield	4
Somerville	4
Manchester	3
Waterbury	2

Slide 20. Now let us come back home to the New England States. Nine are above the median city, eleven below. New Haven stands first, with 46 per cent, incidentally third of all the surveyed cities,—Fall River second, and Quincy third,—a much better showing for Quincy in diphtheria immunization than in vaccination, when she stood next to the last. Eight of the cities are really very low, with Waterbury at 2 per cent.

Under 1	3
1 yr.	17
2 yrs.	22
3 yrs.	24
4 yrs.	27
5 yrs.	32

Slide 21. When we come to consider the age distribution of the children in the 156 cities we find again a rather surprisingly low incidence under one year of age, only 3 per cent. Then there is a rapid jump during the second year and a slow steady increase through the sixth year. And still 68 per cent of those chil-

dren soon to enter school, more than two-thirds, were not protected against a disease which in 1928 took a toll of over 8,000 deaths, of which 5,000, or over 60 per cent were in children under five years of age. The proportion of children immunized against diphtheria is greater in the second, third, and fourth years than against smallpox, but in the years immediately preceding school life, there is not that jump we saw for smallpox vaccination.

Fall River	9
Quincy	8
Providence	7
Portland	3
Holyoke	2
Springfield	2
Bridgeport	2
Hartford	2
New Haven	2
Stamford	2
Lowell	1
Pittsfield	1

Among the twenty New England cities, in eight, Manchester, N. H., Boston, Brockton, Lynn, Newton, and Somerville in Massachusetts, and New Britain and Waterbury in Connecticut, not one baby under one year was seen in the Survey who had been immunized. Fall River with 9 per cent, Quincy with 8 per cent and Providence with 7 per cent, had the greatest number of babies immunized during the first year of life. That is, 40 per cent showed no baby immunized, a much better showing than for vaccination—with 60 per cent of the cities with none. When we come to the 5 year olds, those about to enter school, New Haven leads with 75 per cent immunized, Portland is second with 52 per cent, Holyoke third with 51 per cent, Fall River and Lowell each have 48 per cent, and Bridgeport 47. Boston showed 36 per cent, standing eighth among the New England cities. The lowest in the group was Somerville with 5 per cent.

In the median city in New England 29 per cent were immunized. Only three of the 20 cities showed more than 50 per cent of the five year olds immunized,—15 per cent. The average percentage for the New England cities was 28.7.

In New York State, of the 11 cities eight, or nearly 73 per cent, showed over 50 per cent of the five year olds immunized, the lowest was 35 per cent (Buffalo). The median city figure was 51. The average for 11 cities was 55 per cent.

In the remainder of the 156 cities, New England and New York State being omitted, only nine cities out of 125 showed over 50 per cent results, 7.2 per cent. The general average of percentages immunized was 23.8. Sixteen per cent had less than 10 per cent only immunized just before their school life began. One city, the city of Roanoke, Va., did not have a single child five years old, who was seen in the Survey, immunized. To recapitulate: New York State 73 per cent of cities are 50 per cent immunized. New England 15.0. Balance 7.2. Average for cities immunized, New York 55; New England 28.7; balance 23.8.

I.	21
II.	16
III.	11
IV.	10
V.	10

Slide 22. Looking at the relation between immunization and economic status it is to be noted that just as in vaccination, there is a similar gradual diminution from the higher to the lower groups, but the difference is more marked, from 21 to 10 in immunization, as against 16 to 11 in vaccination.

	I	II	III	IV	V
Des Moines	31	24	9	1	3
Boston	14	13	8	10	29
Detroit	43	35	42	37	42

Slide 23. A study of the influence of economic status in three cities is interesting. In Des Moines there is considerable immunization among the first two groups, but then it falls to practically nothing. In Detroit there is a high percentage in all five groups. In Boston the greatest amount has been done among the very poorest,—more than twice as many in Group V as in Group I. It might be helpful to find out why this is so.

Among the 2500 physicians, 7 per cent of those who answered the question state that they do not urge immunization against diphtheria but only give it when asked, while 92 per cent state they do make a point of urging it. One half of one per cent stated they did not believe in it.

Among the New England physicians who are carried in the Directory of the A. M. A. as specializing in, or specially interested in, pediatrics, 13.5 per cent of those answering state that they only give it when asked to. Only one man did not believe in it, though one other qualified his approval by adding, "I do not think immunization is as valuable in preventing diphtheria as tonsillectomy." Is that 13.5 per cent (only giving immunization when asked to) rather a high figure from those who are carried in the directory with a Pd. star, or Pd.? The figure for all sections is only 7 per cent.

There are a great many very interesting side lines in this survey which are being developed as fast as we can without any money to do them. The relative utilization of these procedures by black and white—the influence of the size of the family, whether a fourth child is more likely to be immunized against diphtheria than a third, and so on. These will come out in a pamphlet supplemental to the printed report.

There is one thing I should like to show you as I come to the end of my subject. The relation of the birthplace of the parents, or more especially of the mother, to the infant death rate has always interested me. I have watched and charted these statistics as they appear, long overdue, from the Census Bureau. The lowest infant mortality occurs among the American born babies of Russian born mothers; the next lowest among those of Scandinavian born mothers. The Scandinavians are almost entirely from Sweden. The third lowest is that of children of English, Scotch and Welsh mothers, and the fourth among those of native born mothers. Next above the native born mothers come the Italians, and it is very close.

Slide 24. The population of the children of parents born in various countries who utilize these measures is of interest. Health examinations are given to the children of Russian parents in greater proportion than any other group, about 65 per cent. Those of native-born mothers come next, about 52 per cent and just above the general average. Sweden comes next, and tenth of the eleven groups stands Italy. Except for the first two, all are under the general average.

Slide 25. When we look at vaccination against smallpox, Russia is again first and far ahead of any other nationality group. Italy comes from tenth place for health examinations to fourth, Sweden falls to tenth place and the native born to ninth. You may remember that there was not a very great difference in any of the nationalities on health examinations and most were under the general average,—United States being second and above. Here there is much wider variation, and all but three, United States, Sweden and Canada (French Canadian) are above the average. This shows what a great preponderance the children of native born parents had over foreign born in this survey.

Slide 26. In immunization against diphtheria the Russians again take the lead, by a good margin, Italy moves up to second place, native-born moves up from ninth to eighth, and Sweden is last. Seven foreign groups are above the average for the whole group, and again the United States is below the average.

Slide 27. The Russian descendants stand first in all three subjects, and incidentally second in dental examinations. The nationality groups which seem to appreciate health and dental examinations most, make least use of vaccination and immunization, the Russians practically alone excepted. Perhaps it is because they welcome advice, but do not appreciate treatment. And vice versa, those who appreciate examinations least, are most appreciative of the "treatment" activities. It seems to me these facts may be of value in Public Health campaigns at any rate.

Slide 28. The proportion of children three, four and five years old, for no younger ones are included, who received dental examinations is very small and not unexpectedly so. The figure for the median city is 11 per cent. Six of the eleven Massachusetts cities are above the median, and Newton with 42 per cent ranks second among the surveyed cities. The highest proportion was in Cleveland Heights with 44 per cent. Boston with 18 per cent ranks thirty-first among the 156 cities.

Slide 29. Facts were obtained from 37,000 rural children in 42 states, but the numbers are often so small and the method of collecting the information was so incapable of control that comparisons between various areas is unreliable. But the relative proportions of urban and rural may be of interest. Here our figures are general averages. Of 146,000 urban children, 51 per cent had received health examinations, while of 37,000 rural children 37 per cent had. Twenty-one per cent of urban children received diphtheria immunization, while 18 per cent of the rural had. This is a surprisingly high relative proportion for the rural children. With vaccination the rural child is apparently badly neglected,—only 7 per cent as against 21 per cent of urban children. I think these comparisons of the relative frequency of diphtheria immunization and vaccination can be trusted for they deal with the same children. Three times as many rural children under six are immunized as are vaccinated.

The dental examinations are also surprising, for in both groups as many rural children are reported as receiving it as urban.

Slide 30. In closing, please do not misunderstand me. We do not claim that these figures are conclusive,—that they represent the exact situation in each city. All we claim is that they are at least suggestive, and for the character of the population reached, we believe they are accurate. The most painstaking care was used to make the instructions absolutely exact and definite,—as near fool-proof as possible, in other words. The findings in many cases have been confirmed by subsequent and more extensive follow-up surveys undertaken by interested citizens. We believe it was worth while, as a survey was made in 156 cities through the country during a period of less than nine months, along exactly the same lines, recorded on the same forms, and carefully analyzed by the same staff of expert statisticians. I thank you for your patience.

CHILD HEALTH CONFERENCES AND THE DOCTOR'S BREAD AND BUTTER*

BY LEWIS WEBB HILL, M.D.†

WHENEVER pediatricians foregather for gossip, the conversation sooner or later turns to the child health conferences conducted by public agencies, and their evil effect upon practice.

The influence of these conferences on the practitioner's clientele depends on the kind of clientele he has and the sort of community in which the conference is situated. Wherefore some men complain not at all; others much. Their complaints may or may not be justified, and if they are justified it is possible that there are remedies which may be applied.

It is my purpose to discuss these matters frankly and without prejudice.

There are in Greater Boston sixteen child health conferences. They are conducted in the following manner. Copies of the birth registrations of all newly born babies are sent to the nurses connected with the conferences. These nurses then go to see each baby and urge the mother to have it enrolled in the conference. They are supposed to see to it that if there is a family doctor, the baby is referred to him. What is likely to happen is that the mother is urged to bring the baby to the conference unless she expresses an active desire not to do so. This last is the statement of a doctor who conducts one of the conferences.

There is little distinction between well-to-do and poor in this canvassing.

When a baby arrives at a conference it is examined, feeding is prescribed, and the mother is told to return at stated intervals. If she does not, a nurse goes after her. The child is followed until it goes to school, and is given toxin-antitoxin and vaccinated. Only well babies and children are admitted.

All of the other large New England cities and many of the smaller towns likewise have child health conferences. Some of them are conducted by the municipality, others by neighborhood health associations, others are endowed, and at least one is supported by a wealthy individual. Some of these clinics not only supervise well children, but treat sick ones. One at least is closely affiliated with a prenatal clinic, so that babies are enrolled before they are born, in spite of the fact that many of the women in this clinic have private obstetricians and go to private lying-in hospitals. Some vaccinate and give toxin-antitoxin, some do not, some supervise the child only during the first year, others through the preschool period; but whatsoever differences there are in them, they nearly all have three things in common. They solicit patients by means of their visiting nurses, they go after those babies who do not return, and they are all well patronized.

These clinics or conferences are caring for very large numbers of infants and young children. There can be no question whatever that they are doing an immense amount of good, and that such supervision of infants and young children is the very cornerstone of any program of public health work. They have helped many deserving families who would otherwise not have had this help, and have done more than any other one thing to educate the population in matters of child care. They are a vital necessity to the Commonwealth.

What criticism can the practitioner then have of them? It is based on the following statement, the validity of which no right thinking person can deny. The practitioner wishes to do this work for those who can pay for it; he wishes public agencies to do it for those who cannot pay for it. This represents a fundamental principle of medical economics, and must be adhered to if the private practitioner is to survive.

Is it true that child health clinics have taken away much work from the private practitioner? This is not an easy question to answer, for many factors are involved. In the first place, it must not be forgotten that public health agencies have created for the practitioner a considerable opportunity, by advertising to the public the desirability of supervision of the well child. Large numbers of parents now realize this, and they intend to have it done, either at a free clinic or by the private practitioner.

In the second place there can be no question that the profession in general has been very backward in preventive medicine and has not offered whole-heartedly to the public the services given by the clinics. Part of this attitude has been because the practitioner has not yet grasped the fact that the public is being rapidly educated for such service, and is eager for it; part of it because of his honest hesitation to advocate measures for his patients which may transfer money from their pockets to his, when they are not sick.

All this applies more to the general practitioner than to the pediatrist, but also in certain measure to the latter.

It cannot be said that the clinics have taken away from the private doctor what he has never

*Read at a meeting of the New England Pediatric Society, March 3, 1933.

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had, and to this extent his complaints are groundless.

Thirdly, are the clinics treating many patients who could afford to pay a doctor? This naturally varies a great deal according to the location of the clinic. Some of them are situated in parts of the city, or in mill towns, where a large proportion of the inhabitants are poor. They have enough to do to get together sufficient income to provide them with a roof over their heads and three meals a day, without paying a doctor. These people will avail themselves of health service if it is free; if they have to pay for it they will not. It is for such that the clinics should exist. There is also a large group who are able to pay to doctors moderate fees when they are sick, but who have so little surplus that they do not wish to pay for medical attention when they are well. It is for such that the clinics should exist.

On the other hand there can be no question that some clinics, those situated in the better districts of the metropolitan area, and particularly some of those in the better type of small towns, treat a great many patients who could and should pay a doctor, and that their policy is "come one, come all," with no attempt to impress upon the population that public clinics are for the poor and not for the well-to-do. Furthermore, in those clinics conducted by municipalities, the well-to-do cannot be excluded except by a process of education and public sentiment, for they as taxpayers have a legal right to whatever service is offered by the municipality.

Inasmuch as the preliminary contact between the clinic and the prospective patient is very often in the person of the nurse, her attitude is of great importance, and I suspect that, in general, the nurses, in their eagerness to have a large and successful clinic, discriminate very little in their canvassing, and do not emphasize the fact that public clinics are for poor people. There are in this country a great many persons whose financial status is much superior to their social status, and who are by no means unwilling to go to a free clinic in spite of adequate pocketbooks. The foreigner who may be poor in appearance is often not so poor as he seems. Such people avail themselves eagerly of free hospital and clinic service. The hospitals have been grappling with this problem, to the best of their ability, for years. It is time the child health conferences did so.

It seems fair to conclude that most of the patients in the conferences are the children of people with very moderate means, who should be treated there, but that there are also many who should not be there, and that the policy "come one, come all" should be held by no free clinic —that those conducting the clinics should instruct their nurses to use more discrimination in soliciting patients, and that efforts should be made in every community to create a public sentiment against the use of the clinics by the well-to-do.

It seems fair to conclude that the health clinics are doing considerable work that the practitioner should have. This applies, I think, more to some of the smaller towns than it does to the larger cities, but in some measure to the latter. There are a few clinics, treating sick and well children alike, which are in direct and open competition with the doctors of the community, for well-to-do patients. This should not be.

It may also be concluded, in spite of the fact that the clinics are seemingly detrimental to the doctor, that they have also created for him a very splendid opportunity to increase his income, for they have advertised to the public in a much more far-reaching way than he could ever have done the value of preventive health measures for children, and have made it ready for his services. If he wishes to save his own skin, it is for him to take advantage of this opportunity.

If we believe that work is being done by the health clinics which we should ourselves have, what can we do about it? There is but one answer. We must go after this work with more aggressive and more systematic measures than we have hitherto employed. We must do it individually, and we must do it collectively by means of propaganda controlled by our various medical societies. There can be no question that in Boston, at any rate, it is too easy for people to get free medical attention of all sorts. Pediatric clinics have multiplied so that the field of the private practitioner as regards the care of sick children is constantly being restricted. Coincident with this, the number of pediatricians has increased at a tremendous rate, so that to say that Boston is overcrowded with capable pediatricians is to say something that everyone knows. What with this narrowing influence working in both ways, a state of affairs has arisen, and is constantly accelerating itself, with the result that there are not enough sick children to provide all the pediatricians with the numbers of patients to which they should be entitled after their years of training. An increased attention to preventive pediatrics offers a partial solution, and the young man who starts with the idea of devoting as much time to the well as to the sick child, will be the successful pediatrist of the future.

If I may be permitted to digress a moment, I should like to go on record as having said that while there is no city in the country, or probably in any other country, where competition in the practice of pediatrics is more keen than it is here, there is no place where it is more fair and

above board, or where there is better feeling among the pediatricians as a group.

No one can deny that the patient should get better care by going to the private doctor for health measures than to the clinic, for the large numbers seen in most of the clinics make careful individual attention impossible. If the mother knows that her private doctor has a systematized plan of following her child, and that he is really interested, it should not be difficult to induce her to come to his office, where she will be seen by appointment, instead of going to the clinic, where she waits half the afternoon with a swarm of other women and contagious children.

We have been too much afraid of criticism for following up patients who do not return, and for urging upon them the various preventive services we can give them. The time has come when we must look at these matters in a new light, if we wish to compete with the clinics. We must not be bashful in following up patients, for their own good, as well as for ours; we must not be afraid to urge upon them the advantages of prophylactic measures and of periodic examinations. We must be more aggressive. We must make a special effort to develop this type of practice. We have all done this to a certain extent, but we can do better. If we are to compete successfully with the free clinics, we must do better.

This work in most places should be done by the family doctor, and he is quite capable of doing it if he will but bestir himself. It is not necessary to be a pediatrist to weigh and feed normal babies, or to vaccinate them or give them toxin-antitoxin. Most general practitioners know more about children than they think they do. But the family doctor has no right to complain about the clinics, if he has no baby scales in his office, or no toxin-antitoxin or smallpox vaccine in his icebox.

The fundamentals of preventive work may be divided into three sections.

1) Supervision of the nutrition of babies during the first year.
2) Toxin-antitoxin inoculations and vaccinations.
3) Periodic examination of the well child after the first year.

As regards the first group, our work is reasonably good. Babies are brought to us with fair regularity. We should impress upon the mother the first time we see her that it is our desire to stay with the child right along, that it is our job to help her raise a healthy child, that we wish to see her baby at stated intervals, and that instead of leaving it to her we will send her a notice when it is time for this. Mothers like this. They like to feel that the doctor has the baby on his mind, and that instead of leaving her visits to him or his visits to her to chance or convenience, he has a definite system for the regular supervision of her child. This program is somewhat easier for the pediatrician than for the general practitioner to carry out, but it can be done by both.

We all give toxin-antitoxin or toxoid to most of our patients, but many of us do not do it early enough. We should see to it that this is done before the end of the first year, and should also vaccinate the baby at about this time. We can inquire whether every older child we see as a new patient has had toxin-antitoxin, and can make arrangements for giving it. We should keep our fees for doing this as low as possible. Many of us neglect to do Schick tests afterwards. There is room for great improvement in this respect, and it is not at all difficult to keep a record of all those we have immunized, and to send for them six months later.

It is in the third group, the periodic examination of the well child, that there is room for the greatest improvement. Many mothers have not yet reached this degree of education. They will bring a young baby readily enough, for they realize that his diet needs to be changed, but if an older child seems to be thriving, many do not see the desirability of having him looked over at regular intervals. There should be a number of ways of increasing this class of clientele. In the first place, we can tell the mothers of our babies that periodic examination is as important after the first year as during it—that we want to see the child every three months, six months, or year, as the case may be, and that we will send her a notice when we wish to see it. It should not be difficult to implant the idea in the minds of this group.

We also see a good many children in our offices with minor ailments, whom we have not known as babies. We weigh, measure, and examine them, as a matter of course, prescribe treatment, and then very often lose track of them, when their immediate problem has been remedied. We can tell the mothers of these children that it is a good idea to have the child looked over at regular intervals, and if we have been careful in our first examination she will not be difficult to convince. We can tell her that we have a regular plan for looking after these children, and will send her a notice when it is time for us to see them again. I know that some men use these follow-up notices consistently, but most do not. They bring results.

These are methods to be used by the individual. It should also be possible for us to do something as a group, inasmuch as propaganda can be issued by a group or by an organization, which could not be fittingly done by an individual. Last year the Massachusetts Department of Public Health, under the direction of

Dr. George Bigelow, sent cards to doctors, which read as follows:

"Preventive medicine from your family physician.

Child health and protection can be greatly increased if all parents will see that every child who is to enter school in September has

1) Thorough examination by a doctor and dentist.
2) Prompt correction of any remediable defects found.
3) Vaccination against smallpox and toxin-antitoxin inoculation against diphtheria before entering school."

These cards were to be sent by the individual doctor to his patients, signed by himself and by Dr. Bigelow. They were not used at all extensively. Some such scheme might well be used by various county or other medical societies.

The Health Commissioner of Massachusetts, the members of the state child health committee of the American Academy of Pediatrics, and the directors of the Boston child health conferences I know are all men who wish the child health conferences to be conducted in such a way that they will not interfere with the private practitioner. They are interested primarily in having the work done, and they have said repeatedly that the private practitioner is the one to do it, in so far as is possible. It is for us to coöperate with them.

All of these matters have been discussed many times from the point of view of the child. I have discussed them from the point of view of the doctor. I only hope I have done so fairly. The child health conferences have not interfered with me. I am not connected with a child health conference, or with any public health work. My opinions should therefore be impartial, and I should be very sorry if anything that I have said should be construed as an attack on the conferences.

No one of us should be antagonistic to anything that is for the welfare of children. No one of us should in any way hinder the splendid work that is being done by the conferences. We must never be antagonistic to them, but we must use every effort in our power fairly and honestly to compete with them, and to take away from them all those patients who can pay a doctor. Public clinics are for poor people only. This is plain talk, but the occasion demands it.

It is self-evident that public medical service to those who can afford to pay for private medical care is not a good thing for the doctor. Such public service is continually increasing, and the demand for paid medical care is growing less.

The medical profession, as we all know to our sorrow, is at the present time in a very unsettled condition, partly on account of the depression, partly on account of overcrowding, and partly on account of a growing tendency to public medical service. The long-awaited report of the Committee on the Costs of Medical Care has been recently published, and advocates the still further extension of semi-public medical service. Whether this report is good or bad I am not competent to judge; whether its provisions will or will not in the course of time be accepted by our profession and by the public, I do not know. But I do know that we are in the immediate present confronted by a situation and not by a theory or a set of plans and recommendations, and that it is to our interest at present to strive for the principle of private service for those who can pay for it — public service for only those who cannot. If we insist on this broad principle, we need have no fear of so-called state medicine, or any quarrel with it.

As a profession we are to have many days of uncertainty ahead of us. The trend of events is not favorable to us. But I tell you that not adversity, nor trouble, nor uncertainty, nor storm, nor depressions, nor any other thing whatsoever, shall separate us from the love of medicine. We must strive to make it financially profitable, but we are also in it because we love it, and would do no other thing if we could.

THE INTERNATIONAL ASSOCIATION FOR PREVENTION OF BLINDNESS

Madrid, Spain, April 18 — Seven American ophthalmologists represented the United States at the Annual Meeting of the International Association for Prevention of Blindness here today.

Dr. Park Lewis, of Buffalo, N. Y., who is Vice-President of both the International Association and the American National Society for the Prevention of Blindness, headed the delegation from the United States which includes Dr. Le Grand H. Hardy of New York City, and Dr. E. V. L. Brown of Chicago, members of the Advisory Committee of the American National Society; Dr. M. Davidson of the New York State Department of Labor; Dr. Manuel U. Troncaso and Dr. Ramon Castroviejo of New York City, and Dr. Frederick Bentley of Seattle, Washington.

The principal topic of general discussion was "A Plan of International Classification of the Causes of Blindness." The American delegates presented the results of research during the past several years by The Committee on Statistics of the Blind, sponsored by the American Foundation for the Blind and the American National Society for the Prevention of Blindness.

National committees devoted to prevention of blindness and conservation of vision, sponsored by the International Association, are now functioning in Argentine, Belgium, Brazil, China, Germany, Hungary, Italy, Japan, Mexico, Poland, Portugal, Spain and Switzerland.

Two of the principal directions in which the Association is working, according to Professor de Lapersonne, are toward the prevention of industrial eye accidents and the establishment of "sight-conservation classes" for school children with seriously defective vision. In connection with the latter problem, he cited the fact that the Association has taken up this question with the Child Welfare Committee of the League of Nations.

NEW ENGLAND SURGICAL SOCIETY

IMPORTANT FACTORS IN THE TREATMENT OF COMPOUND FRACTURES*

BY PAUL P. SWETT, M.D.,† AND S. H. MC PHERSON, M.D.†

SINCE we presented our paper on the treatment of compound fractures before this Society in 1928, it has seemed increasingly evident that we failed at that time to make clear the full significance of certain essential features in treatment which we think are of greatest importance. Over a period of several years, we have gradually developed a definitely formulated plan for managing these cases and to this plan we have applied our efforts with increasing confidence and with constantly improving results. Therefore, it is the purpose of this paper to emphasize three essential features in the treatment of compound fractures and to present the results in our last twenty-eight cases in substantiation of the viewpoint which makes this emphasis seem desirable. Other necessary steps in the handling of these cases will not be dwelt upon here because the writers have previously expressed themselves on the complete score and, further, because it is hoped that such a confining of the attention will add force to the emphasis.

In thus attempting to be brief, explicit and direct, there may be an unfortunate appearance of dogmatism. This is not the state of mind in which this paper is written and the risk of criticism on this score is deliberately taken in the hope that your attention may be the more effectively arrested.

The three features are as follows: First, immediate loose closure of the skin wounds including the accidental ones and all enlargements of them, after proper cleansing, débridement and reduction without any form of direct fixation and with adequate drainage. It is realized that there often is so much destruction of the skin that it is impossible to entirely close it by suture. Every effort should be made to cover the bone, at least, and at times it may be wise to swing a flap of skin so as to cover the entire compounded area by leaving a gap in a relatively uninjured part of the leg. This gap may be allowed to heal by granulation and such a proceeding is preferable to a granulating wound at the site of the compound opening. Secondly, the use of sufficient immobilization, usually by circular plaster cases in which there are no windows or other openings except for such lengthwise splitting of the case as the circulation may require. Thirdly, the removal of the entire dressing under an anesthetic in the operating room and under full aseptic technic on the second or third day after the primary procedure.

It must be distinctly understood that these directions apply only to compound fractures treated within fifteen hours of the injury. Cases that are received after this length of time belong in a different class and whether the delay be due to the presence of shock or procrastination at some stage nothing here discussed should be understood to apply to such cases.

The reasons for the use of the three features as outlined above are firmly fixed and grounded on a competent and logical foundation. Immediate closure of the skin wounds with no sutures in any of the deeper layers is for the purpose of excluding subsequent infection and to remove the traumatic effect of the dressings on the muscle and fascia and so to foster the local nutrition. Extensive drainage is to prevent the accumulation of blood and serum so as to avoid pressure necrosis and to lessen the danger of infection. Drainage material is of rubber tubing fenestrated or of rubber tissue both of which are relatively non-irritating and easily removable. There has not been, in our experience, any tendency to sinus formation by such drains, nor is there likely to be if they are promptly removed at the end of two or three days.

The reasons for the preference for circular plaster cases are the equalization of pressure throughout the extremity, in addition to the thoroughness of the immobilization both of which factors are important in the prevention of further traumatic damage and for the relief of pain. Windows in the dressing are avoided because of the local edema they cause and for the removal of the temptation to look at the wound which is one of the best ways to infect it.

The reasons for doing an anesthetic operating room dressing with complete removal of the first dressing are to permit a thorough inspection of the injured parts, removal of the drains and the taking of a culture, without risk of infection and the reapplication of clean dressings and a fresh plaster case. If there are evidences of gross infection, the stage is then properly set for the institution of the Orr treatment, which in our experience is the best method for gross-

*Read at the Annual Meeting of the New England Surgical Society, at Hartford, Conn., October 1, 1932.

†Swett—Consulting Orthopaedic Surgeon, Hartford Hospital. McPherson—Attending Orthopaedic Surgeon, Newington Home for Crippled Children and Children's Village. For record and address of author see "This Week's Issue," page 962.

ly infected cases. If no gross signs of infection are found at this second dressing, there is no necessity for subsequent dressings for several days or even for weeks unless the plaster becomes foul or soft from the presence of blood and serum. Frequently there may be some degree of superficial sloughing of the skin which results in a granulating wound and for such wounds the dressings should be infrequent and usually are best done by removing the case or by bivalving it. At all events the healing of the wounds and the union of the fracture are facilitated by infrequent dressings.

If the cultures taken at the first operation show marked growths of the more dangerous organisms and if the constitutional signs indicate gross infection it may not be wise to postpone the second dressing more than twenty-four hours but in any event this dressing should be done in the operating room and not at the bedside. Again if the cultures at the second dressing show serious infection then the constitutional signs must be closely watched and one must be prepared to do a prompt redressing and to begin the Orr treatment if the state of the wound confirms the necessity for this treatment.

In general, tetanus antitoxin may be depended upon to prevent tetanus for in our experience tetanus has never developed in a compound fracture treated along the lines here described. The question of gas gangrene presents a different picture and is an unsolved problem so far as we can see since we know of no positive way to avoid it. However, we believe that thorough, gentle débridement, evacuation of all hemorrhagic pockets and adequate drainage may be relied upon to render the likelihood of gas gangrene as remote as possible.

Since our previous report there have been twenty-eight compound fractures of the lower extremities treated by this method. That is, there have been twenty-eight cases reaching us within the arbitrary fifteen hour period. Of these cases, nineteen were recorded as complete cures with no residual effects of any kind; five presented good results with no infection and only a painful scar to trouble them; in one there was delayed bone union but an otherwise good result. Two of the twenty-eight patients died; one from the effects of concomitant intracranial injury, diabetes and lobar pneumonia, and the other from acute lobar pneumonia, one case terminated in amputation because of circulatory failure in the foot. Not one of these twenty-eight cases had gross wound infection or any macroscopic evidence of osteomyelitis.

No one is more fully aware of the danger of jumping at conclusions than are the writers of this paper and we are quite prepared never to see the record of this series equaled by the treatment here recommended or by any other plan of treatment. We merely submit a course we have pursued and give you the results obtained by this course and urge its more general practice because we believe it merits a more universal application.

Discussion

Dr. George A. Leland, Jr., Boston, Mass.: *Mr. President and Members of the New England Surgical Society*—In the treatment of fractures there is an old saying to the effect that neither apparatus nor method is of so great value as the skill with which they are used. It seems to me that this old saying applies to the method of treatment of compound fractures which we have just listened to.

I think you will all agree that the results reported are most excellent. I feel that Dr. Swett is to be very much congratulated on formulating this method and carrying it to such a successful conclusion. Nevertheless, it seems to me that the three features which he emphasizes would not be entirely practical for all types of compound fractures, especially the very severe compound fractures.

In the first place, he emphasizes the desirability of complete débridement and drainage with tubes which he removes within three days. We must all heartily agree with him on the question of débridement, because, of course, that is the foundation for the correct treatment of compound fractures, no matter what method is pursued. On the other hand, in some cases where there is massive hemorrhage or crushed tissue, there are oftentimes hematomata in the muscles which cannot be evacuated at this preliminary procedure and which require longer drainage than merely three days. He intimates such situations when he says that sometimes he has to change a cast late in the treatment because of serum discharge. For these cases I feel that the Dakin technique is preferable to a technique where the drains are removed within three days.

The second feature which he emphasizes is the placing of the limb in a plaster cast which, as I understand it, is removed and reapplied within a three-day period. It seems to me that in a certain number of extensively comminuted fractures, this reapplication of the plaster casing at the end or within three days might very possibly result in a slumping of the fragments and a loss of the original accurate alignment. Skeletal traction with a Thomas splint originally applied would, of course, obviate any such misalignment taking place.

Finally, it is pointed out that within the three-day period he reanesthetizes the patient. Even choosing the least dangerous of a wide number of forms of anesthesia, I question whether there may not occasionally be a considerable risk of pneumonia and other complications added if this reanesthetization of the patient is undertaken.

This third feature, of course, is obviated in such cases where originally Dakinization and skeletal traction are used in these compound fractures.

Dr. Ernest M. Daland, Boston, Mass.: I should like to cite one case we have under treatment at the Massachusetts General Hospital now, in which this method of treatment would not have been very satisfactory.

About two weeks ago a man came in with a compound fracture dislocation of the ankle, a fractured fibula with the ankle dislocated and compounded through the inner side of the foot. It was a simple longitudinal slit without any skin damage, but we treated it as follows: The wound was thoroughly cleaned and débrided; the skin edges were excised; the ankle joint was thoroughly irrigated with several liters of salt solution. The fracture was reduced. The internal lateral ligament was sutured and the skin loosely sutured. No drainage was used. A Kirschner wire was put through the os calcis for the purpose of maintaining the reduction.

He was all right for about three days and then he had a rise of a degree of temperature and we found one or two skin sutures that were septic. The skin sutures were taken out and quite a bit of pus evacuated. The temperature came down to normal but for the next three or four days there was more and more infection and the skin wound was opened up widely. The reduction was maintained all this time by the use of the Kirschner wire with a small amount of traction,—ten, and then fifteen pounds. The fracture has been maintained in complete reduction during these two weeks. Early ankle motion was started and he has fairly good ankle motion right now in spite of the fact that his wound is wide open and he has been draining some pus from his ankle joint.

The ankle joint is irrigated once a day with salt solution and after that third or fourth day his temperature has remained at normal. A plaster casing in this instance would have made it a little more difficult for us to determine the amount of infection and certainly removing the cast and reapplying it would have spoiled the reduction because even now the ankle joint is very wobbly and the position is maintained only by the traction.

Dr. Donald Munro, Boston, Mass.: *Mr. President, Members of the Society*—Compound fractures of the extremity are certainly very complicated affairs and I think that Dr. Swett is to be congratulated on his results and his masterly presentation of his views. As a sidelight on the general subject of compound fractures I have here a small series of compound fractures of the skull, the statistics of which I should like to present. I feel that these statistics, if they emphasize anything, emphasize the fact that débridement, at any rate in the skull fractures, is the all-important factor in getting healing of the operative wounds by primary intention. On that basis I also think that it is fair to ascribe to the débridement a large measure of the success attained by such surgeons as Dr. Swett when they are handling the much more difficult type of compound fracture in the extremity.

In the course of the last thirty months there have passed through my service at the Boston City Hospital, 370 brain injuries, 34 of these were compound fractures of the skull. The majority of these fractures were treated in the same way and were all operated upon. The treatment consisted in débriding the wound layer by layer, within the first thirty-six hours if possible, and certainly within the first forty-eight hours. Among the individual layers included in the débridement were the periosteum, the bone, the meninges and the brain. Following this procedure the wounds were all sewed up tightly without drainage. No exception was made to this.

Of the 34 cases, 21 were operated on. The other 13 were not operated on for various extraneous reasons. Of the 21 operated cases, 16 healed by primary intention. Two healed with a secondary infection that followed pressure necrosis from too tight stitches and three died, one following secondary infection of the brain and two others from pneumonia. These cases were done by various members of the visiting and resident staff. The operative mortality was 14.2% and the percentage of primary union 76%.

Dr. Paul P. Swett: I have very little to add, Mr. President. I don't want to take up your time by discussing all the points that have been brought up. I should just like to say, though, that with regard to any form of skeletal traction in compound fractures, I have no question that in certain clinics and with adequate skill that sort of treatment can be applied successfully and satisfactorily, but I have seen too many cases of infections in the drill opening for pins or wires to make me feel that it is desirable. As to the question of changing the plaster at a second dressing and giving an anesthetic at that time, the anesthesia is brief and, if there is any question of the pulmonary complications, one doesn't need to use an inhalation anesthetic.

As to the possibility of losing something in the way of alignment or apposition of fractured fragments, that is, I think, of secondary importance. The primary important thing in compound fractures is to avoid infection and the secondary, damage and osteomyelitis and this can be better achieved by complete immobilization. If there is a little loss in the apposition or alignment, it can be corrected later.

THE EXPLOSIBILITY OF NITROUS OXIDE-ETHER MIXTURES

BY LINCOLN F. SISE, M.D.*

IN a mid-western city recently a patient was being given an anesthetic consisting of nitrous oxide, oxygen, and ether. Ethylene was not used in the hospital presumably because of its inflammability and explosibility. As it had not occurred to anyone that the mixture actually being used was also explosive, no precautions were taken against its ignition. The weather was, and had been for some days, extremely cold and dry. While the humidity of the operating room was not known, it is highly probable that it was quite low and that conditions were therefore ripe for the formation of static charges. No precautions were being taken against the formation of such charges. The patient's position on the table was being changed when there was suddenly an explosion of the anesthetic mixture. The anesthetist was severely burned and died later as a result of these burns.

This case brings forcibly to our attention the fact that mixtures of nitrous oxide, oxygen, and ether may be explosive. This is not a theory, it is a fact. Such explosions are not common but they do occur. This case is not unique. To support this statement, the following two cases might be cited.

In Akron, Ohio, a boy of thirteen was brought to the x-ray room for the reduction of a fractured femur under the fluoroscope. He was given nitrous oxide, oxygen, and ether anesthesia. Within five minutes an explosion occurred which shattered the tube, mask, and cushion. This patient, fortunately, was not killed. He twice vomited considerable amounts of blood and complained of vertigo and headache for twenty-four hours, but then made a good recovery[1].

A patient in a Los Angeles hospital was not so fortunate. This patient was having an abdominal operation under the same anesthetic mixture. In this case diathermy was used. An explosion occurred which seemed to be mainly in the patient's lungs. The mask was lifted from the face but the gas machine was not damaged. This patient died soon after the explosion[2].

Even the oxygen of these mixtures is not necessary, as oxygen for the support of the combustion of ether is readily derived from the breaking down of nitrous oxide into nitrogen and oxygen. This was tragically shown in the death of Wilson in Evansville, Indiana, in January, 1929, from the explosion of a tank of nitrous oxide into which some ethylene had probably leaked[3]. That in this case the combustible agent was ethylene and not ether does not alter the fact that nitrous oxide can break down and support combustion.

Mixtures of nitrous oxide, oxygen, and ether are being very commonly used for anesthesia. This article is written in the belief that many physicians do not appreciate the fact that this mixture may be explosive.

It is said that nitrous oxide-oxygen-ether mixtures are less explosive than are ethylene-oxygen mixtures. This is often true but is a somewhat academic statement for the following reason. Each of these mixtures varies widely in explosibility according to the proportion of the different agents, some proportions of each mixture being entirely non-explosive and some being violently explosive; and in any given case it may be difficult or impossible to tell the degree of explosibility of the given mixture. The undeniable and outstanding fact remains that either of these mixtures may be explosive enough to kill the patient—or the anesthetist. They should therefore *both* be regarded at least as potentially explosive.

It seems probable that in many hospitals ethylene has been banned because of its explosibility and nitrous oxide-ether is being used in the belief that it is non-explosive. It would seem to me that the use of ethylene with a full realization of its explosibility and with adequate precautions against its ignition is safer than the use of nitrous oxide-oxygen-ether mixtures without such realization and precautions. The same precautions should be taken, whichever mixture is being used.

This article is not intended as a full discussion of the subject of explosive anesthetic mixtures. For such a discussion the reader is referred to the report of the Committee of the American Medical Association on Anesthesia Accidents[4]. It may not be amiss, however, to review very briefly the precautions which should be taken to prevent ignition of these mixtures.

Evident sources of ignition should be avoided. By this term is meant such sources as a cautery, a flame, or high-tension and sparking electrical equipment such as diathermy or x-ray.

These are not the greatest dangers, however, as they are not apt to be close enough to the mask to ignite the mixture. It has been shown that, with ordinary methods of administration, explosive mixtures cannot be demonstrated more than a few feet from the mask[5]. By using carbon dioxid absorption, the distance from the mask at which mixtures may be ignited is greatly reduced till, under perfect conditions with an absolutely tight-fitting mask, no anesthetic mix-

*Sise—Anesthetist, Lahey Clinic. For record and address of author see "This Week's Issue," page 962.

ture at all escapes from the mask or machine and ignition can take place only from the inside.

The greatest danger of ignition comes from the illusive static spark because it cannot be told when or where it will appear and because it may appear close to the mask. High-tension electrical apparatus is therefore doubly dangerous because, besides producing sparks of its own, it tends to produce static charges and therefore potentially to produce sparks in surrounding objects.

The best protection against the static spark is control of the humidity of the operating room. If the relative humidity is maintained at or above fifty-five, little may be feared from this spark. Many believe that in summer time the conditions as regards humidity are satisfactory. While the humidity is indeed higher in summer than in winter, yet even in summer in this locality the relative humidity in summer is usually below fifty-five.

Lacking control of humidity, a large measure of protection is afforded by connecting electrically all objects that are near the mask, such as the gas machine, operating table, mask, and patient. Most modern apparatus is designed to afford such connection along the breathing tube to the mask. The connection should be on the inside as well as on the outside of those parts of the machine which contain the anesthetic mixture.

CONCLUSION

This article will have accomplished its purpose if it helps to call attention to the explosibility of the commonly used nitrous oxide-oxygen-ether anesthetic mixture.

REFERENCES

1 Steinke, Carl R.: Nitrous oxide-oxygen-ether explosion. J. A. M. A. 98: 1267 (Apr. 9) 1932.

2 Death from explosion of mixture of anesthetic gases. J. A. M. A. 96: 534 (Feb. 14) 1931.

3 An anesthetic accident. J. A. M. A. 92: 476 (Feb. 9) 1929.

4 The hazards of explosion of anesthetics. J. A. M. A. 94: 1491-1498 (May 10) 1930.

5 Cheney, M. B., and Folkman, M. L.: Actual concentrations of ethylene in the air of the operating room and a rapid method of determining the same. Anesth. & Analg. 9: 11-13 (Jan.-Feb.) 1930.

TUBERCULOSIS ABSTRACTS

ISSUED MONTHLY BY THE NATIONAL TUBERCULOSIS ASSOCIATION

PULMONARY TUBERCULOSIS AND SYPHILIS

Deaths from syphilis rank high: in England 10 per cent, in France 16 per cent, in the United States 17 per cent, of the total mortality can be traced to syphilis. On the other hand a study of a group of luetic patients in Germany indicated that 26.67 per cent of them died of tuberculosis against 22.5 per cent dying of syphilis. Similarly, in Finland of 734 syphilitic patients, 25 per cent died of tuberculosis while only 15 per cent died of syphilis. Postmortem examinations of 500 cases of syphilis showed that the cause of death was tuberculosis in 10.6 per cent of cases. These and other statistical studies and clinical observations indicate that syphilis hastens the progress of tuberculosis.

Because of the frequent coexistence of tuberculosis and syphilis, it is important that a careful search be made in tuberculous patients for evidences of syphilis. This search should include as an important feature, a careful history with repeated questions on subjects which might bring syphilis to light, as for example, history of primary sore, rashes, miscarriages and family histories. At the Queen Elizabeth Sanatorium in Budapest, only 1.7 per cent of the tuberculous patients having syphilis gave a clear history of this disease, while the total number found to have syphilis on the basis of history, and serological and clinical examinations was 9.3 per cent of all the patients in the sanatorium. It is desirable to examine the blood of the tuberculous patient routinely at least once and preferably oftener and to employ two tests, as for example the Wassermann and one of the precipitation tests, bearing in mind always that the blood test may be negative even in the presence of syphilis. Orszagh does not think it necessary to examine the spinal fluid in the majority of cases, a judgment with which the reviewer does not fully agree.

SIMILARITY OF SYMPTOMS AND LESIONS

A good many luetic conditions are mistakable for tuberculosis. Thus, there may be general systemic manifestation in early syphilis such as loss of appetite, paleness, raised temperature, headache, chest pains, gastric disturbances and jaundice, symptoms which resemble those of tuberculosis. In the secondary stage of syphilis patients may suffer from bronchitis and sore throat. Usually the lymphatic nodes are enlarged especially those of the groin and neck, and enlarged hilar lymph nodes are not rare in syphilis. Chronic syphilitic skin lesions and chronic syphilitic laryngitis are occasionally mistaken for tuberculosis. Pulmonary syphilis can cause alterations of lung tissue quite similar to those of tuberculosis. Disseminated gummata may resemble miliary tuberculosis, ulcerated gummata may resemble cavitation of tuberculosis. Histologically the lesions of pulmonary tuberculosis and of pulmonary syphilis may be indistinguishable. It is to be borne in mind that the two diseases may be present in the lung at the same time.

Simple pulmonary syphilis does not occur so often as the clinicians and roentgenologists diagnose it. Neither is it so rare as the pathologists

(Continued on page 954)

THE NEW HAMPSHIRE MEDICAL SOCIETY

THE ONE HUNDRED AND FORTY-SECOND ANNUAL MEETING

Hotel Carpenter, Manchester, N. H.
Tuesday and Wednesday, May 16-17, 1933

ALL meetings will be called to order promptly at the stated hour—Standard Time.

The first meeting of the House of Delegates will be held Monday evening, May 15, at 7.30 o'clock, Hotel Carpenter, and subsequent meetings will be in the same place.

The Scientific Sessions will open promptly at 10.00 o'clock A.M., Tuesday, with General Meetings forenoon and afternoon, Tuesday and Wednesday.

Wednesday evening, May 17, banquet 6.30 o'clock, Hotel Carpenter. Tickets, $2.00 each.

OFFICERS FOR 1932-1933

President

Harry O. Chesley, Dover.

Vice-President

Robert J. Graves, Concord.

Secretary-Treasurer

Dennis E. Sullivan, Concord.

Councilors

	Term Expires
Clifton S. Abbott, Belknap County	1933
Arthur T. Downing, Grafton County	1933
Arthur A. Pratte, Cheshire County	1934
Emery M. Fitch, Sullivan County	1934
Henry H. Amsden, Merrimack County	1935
Clarence O. Coburn, Hillsborough Co.	1935
Abram W. Mitchell, Rockingham Co.	1936
John A. Hunter, Strafford County	1936
Richard E. Wilder, Coos County	1937
Charles E. Smith, Carroll County	1937

Trustees

Ira J. Prouty, Keene*	1933
Thomas W. Luce, Portsmouth	1934
Alpha H. Harriman, Laconia	1935

HOUSE OF DELEGATES

The President, ex-officio.
The Vice-President, ex-officio.
The Secretary-Treasurer, ex-officio.

Rockingham County

E. A. Vickery, Portsmouth.
John G. W. Knowlton, Exeter.

Merrimack County

Charles H. Parsons, Concord.
Donald G. McIvor, Concord.
Charles W. Adams, Franklin.

Cheshire County

Frank Dinsmoor, Keene.
Arthur W. Hopkins, West Swanzey.

Grafton County

Leslie K. Sycamore, Hanover.
Kenneth Churchill, Lebanon.

Sullivan County

Everett J. Stone, Newport.
Henry C. Sanders, Jr., Claremont.

Hillsborough County

D. G. Smith, Nashua.
P. Bergeron, Manchester.
T. F. Rock, Nashua.
Henry H. Dearborn, Milford.
George C. Wilkins, Manchester.

Belknap County

John R. Perley, Laconia.
Richard W. Robinson, Laconia.

Carroll County

Charles E. Smith, Conway.
Paul Dye, Wolfeboro.

Strafford County

Thomas J. Morrison, Somersworth.
George C. Rublee, Rochester.

Coos County

William H. Leith, Lancaster.
Joseph J. Cobb, Berlin.

HOUSE OF DELEGATES

MONDAY, MAY 15, 7.30 P.M.

Hotel Carpenter

Speaker, Eugene B. Eastman, Portsmouth.
Vice-Speaker, Carleton R. Metcalf, Concord.

Order of Business

Subject to Approval of the House

Roll Call.
Minutes of last meeting.
Appointment of Committees.
Reports of Officers.
Reports of Standing and Special Committees.
New Business.
Report of Committee on Nominations. (First business of second day.)
Election of Officers.
New Business.
Unfinished Business.

*Deceased.

STANDING COMMITTEES

Scientific Work

D. E. Sullivan, Richard W. Robinson, Frederick P. Scribner.

Public Relations, Public Policy and Legislation

Samuel T. Ladd, Charles Duncan, Henry O. Smith, the President, the Secretary-Treasurer.

Publication

D. E. Sullivan, Henry H. Amsden, Raymond H. Marcotte.

Tuberculosis

Robert B. Kerr, R. W. Deming, A. L. Wallace.

Mental and Social Hygiene

Charles A. Weaver, Benjamin W. Baker, Charles H. Dolloff.

Control of Cancer

George C. Wilkins, Howard N. Kingsford, George F. Dwinell.

Lay Health Organizations

Eugene B. Eastman, Robert B. Kerr, E. A. Jones, Emery M. Fitch, Carleton R. Metcalf.

Medical Education and Hospitals

Joseph J. Cobb, term expires 1933; Robert J. Graves, term expires 1934; John P. Bowler, term expires 1935.

Advisory Committee on Jurisprudence

Thomas W. Luce, Rockingham County; Robert J. Graves, Merrimack County; Osmon H. Hubbard, Cheshire County; Fred E. Clow, Carroll County; Arthur T. Downing, Grafton County; Henry C. Sanders, Jr., Sullivan County; David W. Parker, Hillsborough County; Clifton S. Abbott, Belknap County; Louis W. Flanders, Strafford County; William H. Leith, Coos County; D. E. Sullivan, Concord, Chairman.

Amendments to Constitution and By-Laws

Henry O. Smith, Fred E. Clow, Thomas W. Luce.

New England Medical Council

Harry O. Chesley, President; D. E. Sullivan, Secretary-Treasurer; David W. Parker, term expires 1933; Frederic P. Lord, term expires 1934; Thomas W. Luce, term expires 1935.

Delegate A. M. A.

D. E. Sullivan, 1932-1933.

Alternate Delegate A. M. A.

Deering G. Smith, 1932-1933.

ANNOUNCEMENTS

Note carefully the program.

Every member is requested to register and receive a badge before entering the General Assembly Hall. Ample provisions will be made for these purposes. Please present your membership certificate when registering.

As heretofore, the usual exhibition of x-ray apparatus, books, surgical appliances, drugs and foods will be held. Application for space should be made to Dr. George F. Dwinell, Manchester.

Ladies of visiting members are cordially invited to visit Manchester during the state meeting and are urged to attend the banquet Wednesday evening.

Members of the resident Ladies Committee will be in attendance at headquarters to render such services as may be desired by the visiting ladies.

During the discussion of papers, the speakers will please announce their names plainly for the benefit of the stenographer, and then walk forward to the platform so that the audience and the stenographer may plainly hear what is said.

All meetings will be called to order promptly at the hour stated, S.T.

Discussion of papers is open to all members and guests of the Society. It is not limited to those named on the program.

GENERAL MEETING

TUESDAY, MAY 16, 10 A.M. S. T.

Call to order by the President, Harry O. Chesley, Dover.

Invocation, Most Rev. John B. Peterson, D.D.

Address of Welcome, The Mayor, Damase Caron, M.D.

Report of Committee on Arrangements, Granville E. Hoffses, Chairman.

Reception of Visiting Delegates.

Introduction of members in practice fifty years—1883-1933.

Orthopedics of Infantile Paralysis. Ezra A. Jones, Manchester.

Discussion opened by Carl Friborg, Manchester; Carleton R. Metcalf, Concord.

Diagnosis and Treatment of Multiple Sclerosis. Paul deNicola, Nashua.

Discussion opened by Deering G. Smith, Nashua; Charles H. Dolloff, Concord.

TUESDAY, MAY 16, 2 P.M. S.T.

Presentation of 50-year Membership Gold Medal to Charles F. Flanders, Manchester; Charles A. Weaver, Manchester.

The President's Address, Harry O. Chesley, Dover.

Malignancy of the Colon. Chester L. Smart, Laconia.

Discussion opened by Emery M. Fitch, Claremont; Clifton S. Abbott, Laconia.

Acute Pancreatitis Complicating Infections of the Bile Passages. Philemon E. Truesdale, Fall River, Mass.

Discussion opened by Herbert L. Taylor, Portsmouth; Walter H. Lacey, Keene.

TUESDAY EVENING, 7.30 P.M. S.T.

Talking Motion Pictures

Courtesy of Dr. P. E. Truesdale, Fall River, Mass.

1. Hernia of the Diaphragm.
2. Vaginal Hysterectomy for Prolapse.
3. Thigh Amputation.

WEDNESDAY, 10 A.M. S.T.

Reception of Visiting Delegates.

Latest Developments of the Tonsil Problem. Adolphe J. Provost, Manchester.

Discussion opened by Daniel C. Norton, Manchester; Franklin N. Rogers, Manchester.

Medical Care of County Poor. From Committee on Hospitals, John P. Bowler, Robert J. Graves, Joseph J. Cobb. John P. Bowler, Hanover.

Discussion opened by Edward R. B. McGee, Berlin; Fred E. Clow, Wolfeboro.

Address, Edward H. Cary, Dallas, Texas, President American Medical Association.

WEDNESDAY, 2 P.M. S.T.

SYMPOSIUM

Diseases of the Biliary Tract. Diagnosis and Treatment.

Medical Aspect, Reginald Fitz, Boston.

Roentgenological Aspect, George W. Holmes, Boston.

Surgical Aspect, Alfred T. Bazin, Montreal.

Discussion, Frank H. Lahey, Boston (Lantern Slides).

Report of House of Delegates.

Report of Trustees.

Installation of Officers.

WEDNESDAY EVENING, 6.30 P.M. S.T.

THE BANQUET

Dr. Louis W. Flanders, Dover, Anniversary Chairman.

Among the guest speakers will be—

Dr. Edward H. Cary, President of the American Medical Association, and Dr. Alfred T. Bazin, Professor of Surgery, McGill University.

COMMITTEE ON ARRANGEMENTS

General Chairman, Granville E. Hoffses.

SUB-COMMITTEES

Location—W. A. Thompson.
Program—A. J. Provost.
Reception—M. P. Badger.
Banquet and Entertainment—W. A. Bartlett.
Exhibition—George W. Dwinell.
Finance—Elmer J. Brown.
Publicity—Murray H. Towle.

List of Commercial Exhibitors at the time of going to press.

Elmer N. Blackwell, Portland, Maine.
Boss and Seiffert Co., Providence, R. I.
The Chelmsford Ginger Ale Co., Inc., Chelmsford, Mass.
Crossett Shoe Co., Augusta, Maine.
Davies, Rose & Co., Ltd., Boston, Mass.
George C. Frye Co., Portland, Maine.
General Electric X-Ray Corporation, Boston, Mass.
General Ice Cream Co., Manchester, N. H.
H. P. Hood & Sons, Manchester, N. H.
Lederle Laboratories, Inc., New York, N. Y.
Lindahl, Inc., Manchester, N. H.
E. F. Mahady Co., Boston, Mass.
Mead-Johnson & Co., Evansville, Ohio.
Mellin's Food Co., Boston, Mass.
The P. J. Noyes Co., Lancaster, N. H.
The E. L. Patch Co., Boston, Mass.
R. J. Strasenburgh Co., Pharmaceutical Chemists, Rochester, N. Y.
Surgeons' and Physicians' Supply Co., Boston, Mass.
Tailby-Nason Company, Boston, Mass.
Universal Products Corp., Pottstown, Pa.

MISCELLANY

HILLSBOROUGH COUNTY MEDICAL SOCIETY

The Twenty-First Semi-Annual Meeting of the Hillsborough County Medical Society was held at Peterborough, Tuesday, May 2.

PROGRAM

10 A.M.—Peterborough Hospital. Clinics conducted by Drs. E. G. Crabtree and L. M. Hurxthal.

The Auxiliary had a business meeting at 11 A.M., dinner at 1 P.M., and an address by an out-of-town speaker at 2 P.M., followed by bridge.

1 P.M.—Peterborough Tavern. Dinner.

2 P.M. Peterborough Historical Building. Business Meeting.

Kidney Infections. E. Granville Crabtree, M.D., Boston.

Diagnosis and the Present Status of Treatment of the More Common Endocrine Disorders. Lewis M. Hurxthal, M.D., Boston.

Electrocardiography — Motion picture shown by Dr. Hurxthal.

OFFICERS

President: H. M. Morse, M.D., Peterborough.

Vice-President: T. F. Rock, M.D., Nashua.

Secretary-Treasurer: D. G. Smith, M.D., Nashua.

Board of Censors: H. M. Morse, M.D., Peterborough (term expires 1933); L. F. Richards, M.D., Nashua (1934); E. A. Jones, M.D., Manchester (1935).

Delegates: P. Bergeron, M.D., Manchester (term expires 1933); H. H. Dearborn, M.D., Milford (1933); T. F. Rock, M.D., Nashua (1933); D. G. Smith, M.D., Nashua (1934); G. C. Wilkins, M.D., Manchester (1934).

NEW MEMBERS

Dr. Chester McLean Wiggin, Conway, graduate of University of Vermont Medical School, 1906, licensed 1908.

Dr. Georges Etienne Prevost, Walpole, graduate of Tufts College Medical School, 1929, licensed 1931.

Dr. George Winthrop Bassow, East Jaffrey, graduate of University of Vermont Medical School, 1921, licensed 1932.

DEATHS

DOWLIN—Winfred Mason Dowlin, M.D., Claremont, died at his home April 12.

FERGUSON—Samuel T. Ferguson, M.D., of Goffstown, died at the Hillsborough County Hospital, April 24.

NEW HAMPSHIRE SURGICAL CLUB

Semi-Annual Meeting

Guests of Margaret Pillsbury General Hospital, entertaining Philip D. Wilson, M.D., of Boston, Mass., was held at Concord, Tuesday, April 25.

PROGRAM

9:30-11:00 A.M.—Operations by Members of the Staff of the Margaret Pillsbury General Hospital.

11:00 A.M. to 1:00 P.M.—Presentation of Cases by Staff Members of the Local Hospitals.

1:00 P.M.—Luncheon at the Margaret Pillsbury General Hospital. Courtesy of the Trustees.

2:00 P.M.—Vascular Syphilis Simulating Duodenal Ulcer. By Charles H. Parsons, M.D., and Fred S. Eveleth, M.D.

2:30 P.M.—Fractures of the Elbow. By Philip D. Wilson, M.D., Associate Chief, Fracture Service, Massachusetts General Hospital.

Committee of Arrangements—Staff of the Margaret Pillsbury General Hospital, Concord, N. H. Robert J. Graves, M.D., Chairman.

TUBERCULOSIS ABSTRACTS

(Continued from page 950)

at present take it to be. The diagnostic difficulties are to be overcome only by exact systematic clinical, serological and x-ray examinations. Special significance is attributable to negative sputum, positive Wassermann, characteristic history and the good effects of antiluetic treatment in arriving at a working diagnosis of pulmonary syphilis.

SYPHILIS DELAYS CURE OF TUBERCULOSIS

Tuberculosis at the Queen Elizabeth Sanatorium gave in general a graver prognosis in the presence of syphilis. The longer the intervening period between the outbreak of the two diseases, the less harmfully does lues influence the course of tuberculosis. In judging the effect of syphilis on tuberculosis, it is important to know what the condition of the lung was when syphilis was acquired and whether it has become worse. If the pulmonary lesions are old and healed, or if the patient is in good condition, syphilis as a rule does not affect this condition. But in the case of badly nourished old persons with little capacity for reaction, syphilis can attack the system to such an extent that the latent tuberculosis may be reactivated and become fatal.

In the same way, aggravation may follow fresh luetic infection in the case of persons whose lung trouble was extensive, but which had only showed slow progress till then. If a person suffering from active tuberculosis acquires fresh luetic infection, and his bodily resistance is weak, then the illness may have a very serious course, though it is also possible that the disease may later calm down and the prognosis become more favorable. Persons suffering from antecedent lues may react to fresh pulmonary tuberculosis infection just as healthy persons would. Tuberculosis becomes fatal only if the lues causes lesions which disturb the working and vitality of the whole body, as for example cardiovascular lesions.

MORTALITY RATES

Telegraphic returns from 85 cities with a total population of thirty-seven million for the week ending April 8, indicate a mortality rate of 11.6 as against a rate of 12.7 for the corresponding week of last year. The highest rate (19.7) appears for Trenton, N. J., and the lowest (4.4) for Somerville, Mass. The highest infant mortality rate (16.5) appears for Duluth, Minn., and the lowest for Canton, O., Kansas City, Kans., New Haven, Conn., Somerville, Mass., and South Bend, Ind., which reported no infant mortality.

The annual rate for 85 cities is 12.2 for the fourteen weeks of 1933, as against a rate of 12.7 for the corresponding period of the previous year. —*Bulletin of the Bureau of the Census.*

CASE RECORDS
of the
MASSACHUSETTS GENERAL HOSPITAL

ANTE MORTEM AND POST MORTEM RECORDS AS USED IN WEEKLY CLINICAL-PATHOLOGIC EXERCISES

EDITED BY RICHARD C. CABOT, M.D.
F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 19181

A MONTH'S DYSPNEA AND COUGH IN AN ELDERLY MAN

MEDICAL AND SURGICAL DEPARTMENTS

An Italian of sixty-four, formerly a farmer, entered through the Emergency Ward complaining of shortness of breath of a month's duration.

For several years he had had mild cough with expectoration. The onset of the acute illness was with a "cold", with cough and marked shortness of breath; no coryza, sore throat or constitutional signs of infection. The symptoms grew steadily worse. The amounts of sputa had become large. Three weeks before entry he developed a tremor, which had grown steadily worse. He had also had palpitation and intermittent claudication. During the past week all the symptoms had been more marked, particularly the dyspnea. He had had orthopnea. He thought he had lost weight during the month.

He was born and had lived in the Italian Alps until he came to America twenty-five years before entry.

His general health had always been excellent. He had had no previous illnesses. The genito-urinary history is questionable because of language difficulty. He had frequency five or six times a day.

The family history was not obtained.

Physical examination showed a stocky elderly Italian sitting up in bed, markedly orthopneic. The skin was dry, with numerous excoriations over the trunk and legs. There was marked arcus senilis. ⨯ When the neck was extended a large mass not visible or palpable with the head in normal position was seen to fill the neck. On palpation this proved to be the thyroid. Both lateral lobes were greatly enlarged, the right more markedly. The heart was markedly enlarged to the left. The sounds were of good quality. The rhythm was regular. A loud systolic murmur was heard in all areas, best at the apex. The aortic second sound was very markedly accentuated. The artery walls were extremely hard and tortuous. The blood pressure was 270/155 to 180/100. The chest was barrel shaped, with a tendency to hyperresonance throughout, most marked at the apices. No increase in the suprasternal dullness could be made out. There was bronchial breathing and prolonged expiration. There were moist râles in both bases. The abdomen was above the level of the chest, otherwise normal. There was coarse tremor of the extremities, more marked on motion. The hands resembled the "spade" type. The pupils and reflexes were normal.

The urine was normal in amount, specific gravity 1.012 to 1.042, and showed a slight to a large trace of albumin at all of three examinations, many to occasional white cells at all sediment examinations, no reds, occasional hyalin casts at all, granular once. Blood examination showed 8,200 white cells, 2,780,000 reds, hemoglobin 60 per cent. The non-protein nitrogen was 135, 123, 155, the carbon dioxide combining power 39.7 to 27.9 volumes per cent, the blood chlorides 622.

Before operation the temperature was 100.2° to 98.4°, the pulse 100 to 98, the respiration 36 to 30.

By x-ray the left diaphragm and costophrenic angle were not remarkable. The outline of the right diaphragm was markedly irregular. The costophrenic angle was clear. In the substernal region was a large dense shadow which involved the trachea in both the anteroposterior and lateral views. The right lung was less radiant than the left. The aortic knob was prominent. The left hilus shadow was abnormal in appearance. The heart shadow appeared enlarged in the film, but there was marked rotation of the patient. The examination was considered to be incomplete without fluoroscopy.

A medical consultant advised operation. On the day after admission it was done. That night a medical consultant found congestion at the bases of the lungs without definite consolidation. He noted a rough systolic at the base. The following night the patient was breathing easily, but was disturbed a good deal by hacking unproductive cough. On the third day after operation the chest was filled with moist râles, but there were still no signs of consolidation. On the fifth day the chest was clearing somewhat, but there still were suggestive signs at the right base, bronchovesicular breathing, flatness, and moist râles throughout. The edema was increasing. The patient was more apathetic. On the seventh day after operation he suddenly became cyanotic and died.

CLINICAL DISCUSSION

DR. RICHARD C. CABOT: A great deal of this history may be questionable if there is language difficulty. There are queer things here.

"There was bronchial breathing and prolonged expiration." That is a very queer statement. Apparently it is all over both lungs, and it cannot possibly be. Therefore I should throw it out. It means probably strident breathing.

"The abdomen was above the level of the chest." I suppose, as he was on his back he

stuck up more below the waist, as a good many stout people do. Whether that means that he was rather fat I do not know. It seems a queer way to say so.

The hemoglobin is said to be 60 per cent. I doubt it, because that would give him a high color index, and there is nothing else in the case to make us expect that.

We might as well sum up the main facts: there is evidence of a big thyroid, of a hypertensive heart, of dyspnea coming on so suddenly that we look for some sudden cause, possibly coronary disease, possibly some obstruction from the thyroid.

DR. MAURICE FREMONT-SMITH: I should think it would be a questionable thing to operate on that man.

DR. CABOT: I should. I am wondering what they are going to do and how they will justify it. He has poor kidneys and hypertension is extreme.

A STUDENT: Would you commit yourself as to what type of thyroid he had?

DR. CABOT: No, I would not. It might be hypertrophy or simple adenoma.

DR. GEORGE W. HOLMES: There is a definite shadow extending downward from the shadow of the neck into the superior mediastinum with narrowing of the trachea where it passes through the thorax, seen in both the anteroposterior and the lateral films. It is possible that the operation was done to relieve this narrowing.

DR. CABOT: That gives us a clearer view of it.

DR. HOLMES: The heart lies horizontal in the chest and appears to be enlarged to the left, and there is considerable increase in the supracardiac shadow without evidence of anything in his lungs. The report mentions an irregular diaphragm, and that is probably what they referred to, but I do not know what it means. It may be that he had an old pleurisy. The aortic knob is very prominent. That I think is the hilus shadow, with some congestion and dilation of the pulmonary arteries. The knob does not seem to be actually wide, as it would be if there were an increase in the diameter of the aorta.

DR. CABOT: I think the surgeons felt that his dyspnea was due in part, if not wholly due, to pressure on his trachea, and that his thyroid was choking him to death. I do not believe this is exophthalmic goiter. He had no continuously rapid pulse. Gross tremor of the extremities certainly would not make me think of hyperthyroidism. Exophthalmic goiter does not ordinarily come in the form that obstructs the trachea. I think they were in doubt whether it was possibly a neoplasm of the thyroid or a simple hyperplasia with colloid.

Now we have come to the operation, which I have no doubt was one to relieve this obstruction in the trachea. We have merely the statement of a subtotal thyroidectomy. Their preoperative diagnosis is not recorded.

DR. FREMONT-SMITH: I wonder if one could not have done a tracheotomy and waited until he was in better shape. If the thyroid was low enough you could not do this, could you?

DR. TRACY B. MALLORY: A large part of the gland was definitely substernal.

DR. CABOT: We have two entirely separate things here, as I see it. The hypertension, which I do not believe has any relation to the goiter, but which I certainly believe has affected the kidneys, because he has anemia. So I believe he has the hypertensive type of change in the small arteries of the kidneys, and that with cardiac hypertrophy is the main thing that troubled him until this goiter got so big that it closed his windpipe. I have no criticism to make of the operation. I do not see what else they could have done. But of course he was a very poor risk, due to the high retention products, the anemia, and a heart certainly weakened by all this hypertension. He had the hypertensive type of nephritis, a hypertrophied and dilated heart which I do not believe has any valvular lesion, passive congestion of the lungs, perhaps some lesion due to the weakness after the operation, like a bronchopneumonia.

A STUDENT: Do you think he might have died of pulmonary embolism with this sudden death with cyanosis?

DR. CABOT: Yes, I think he might, but I have no idea where the embolus could come from and I do not like to make the diagnosis unless we have a source for the embolus. I should think that with both respiratory and cardiac reasons for his death, its suddenness does not need further explanation.

A STUDENT: Will you explain the note, "The hands resembled the 'spade' type?"

DR. CABOT: We hear of the square, thick "spade" hand in myxedema and in acromegaly. I do not believe he had myxedema, and I do not believe it had any significance that we can interpret. This interne happened to be interested in it.

CLINICAL DIAGNOSES (FROM HOSPITAL RECORD)

Substernal goiter.
Chronic nephritis with hypertension.
Uremia.

DR. RICHARD C. CABOT'S DIAGNOSES

Hypertension.
Hypertensive nephritis.
Hypertrophied and dilated heart.
General passive congestion.
Secondary (toxic) anemia.
Substernal colloid goiter compressing the trachea.

ANATOMIC DIAGNOSES

(Substernal goiter.)
Operative wound, thyroidectomy.
Edema of the larynx, moderate.

Cardiac hypertrophy, hypertensive type.
Hydrothorax, bilateral, slight.
Arteriosclerosis, marked, aortic, renal and coronary.
Vascular nephritis, marked.
Prolapse of intervertebral disk.

PATHOLOGIC DISCUSSION

DR. MALLORY: A diffuse colloid goiter was found. The other findings were distinctly atrophic kidneys weighing about 200 grams, vascular nephritis; a considerably hypertrophied heart weighing 600 grams with a little calcification at the base of the aortic cusps and very marked narrowing of the descending branch of the left coronary, which, however, was not completely occluded; fairly marked arteriosclerosis everywhere else. There was slight bilateral hydrothorax and rather definite edema of the larynx, which may have had something to do with that troublesome cough.

DR. CABOT: You call it a nephritis?

DR. MALLORY: Yes, without question.

DR. HOLMES: Isn't it rather unusual for that type of thyroid to start enlarging?

DR. MALLORY: Yes. I do not believe there can have been any very sudden change. I think that as he became distinctly weakened from his heart disease and nephritis he became more conscious of a respiratory difficulty which he had before.

CASE 19182

VOMITING OF THREE WEEKS' DURATION IN A WOMAN OF FIFTY-TWO

MEDICAL DEPARTMENT

A colored widow fifty-two years old entered complaining of nausea, vomiting and weakness of three weeks' duration. She was almost comatose, but fairly clear mentally; the history was believed to be fairly reliable.

Five years before entry she had "misery" in all her joints and began to have dyspnea on climbing stairs. Two years before entry she again had pains in all her joints, migratory; also an attack of quinsy. She had transient blurring of vision, spots before her eyes, frequent headaches and increasing dyspnea and palpitation. She had attacks of vertigo, and had almost fallen on several occasions. One year before entry she was treated in the Outpatient Orthopedic Department for a swollen right ankle, a month later for swollen left ankle; neither was much relieved by strapping and baking. A Hinton test at this time was negative. Four months before entry she began to have dependent edema of the legs and questionable edema of the eyelids. For four weeks she had urinated two or three times at night and had had slight increase in frequency by day and increased urgency. The urine looked bloody. She had been almost constantly nauseated and had vomited almost everything taken. Her headaches had been more severe. She had had low back pain. She had been so weak that she remained in bed. She had had some muscular twitchings. She had recently had a few very brief attacks of mild colicky right upper quadrant pain. She had eaten and slept very little since the onset of the acute symptoms. She thought she had lost considerable weight during the illness.

The family history is essentially negative.

The marital history suggests that her husband may have had venereal infections.

She had had frequent sore throats.

Physical examination showed a slightly obese colored woman lying flat in bed, breathing quietly in no apparent discomfort. The breath was ammoniacal. Scattered over the body were blotchy irregular areas of light pigmentation. The heart showed marked enlargement to the left; the left border of dullness was 12 centimeters from midsternum, three centimeters outside the midclavicular line. The supracardiac dullness was 6 centimeters, the right border 3. The action was forceful, the rate 80, the rhythm normal except for an occasional extrasystole. At the apex was a short rough systolic following the first sound. At the base in the third left space was a soft blowing diastolic murmur directly following the second sound. There was no thrill. The aortic second sound was accentuated and roughened. The blood pressure was 230/110 to 220/90. There was a pistol shot over the brachials and a diastolic murmur heard over the femoral arteries. The artery walls showed marked thickening. The lungs, abdomen, rectal and pelvic examinations, the extremities, pupils and reflexes were normal. The fundi showed marked arteriosclerosis, no other abnormalities.

The amount of urine was 75 to 83 ounces on the first two days, afterwards 43 to 31 ounces. The urine was red at three of four examinations, cloudy or smoky at all. The specific gravity was 1.010 to 1.012. There was a trace to a large trace of albumin at all examinations. The sediment showed one to occasional white cells and was loaded with red cells at all. Blood examination showed 11,200 to 22,500 white cells, 74 per cent polynuclears, hemoglobin 55 per cent, 2,470,000 to 2,940,000 red cells, small and achromic, with considerable variation in size and shape. A Hinton test was negative. The non-protein nitrogen was 80, 140, 105, 160.

The temperature was 98.3° to 100.3° with a terminal rise to 102.6°, the pulse 80 to 120. The respirations were normal except for a terminal rise to 37.

X-ray examination showed the kidney shadows and the psoas outlines indefinite. There were marked proliferative changes about all the lumbar vertebrae. The 4th and 5th lumbar vertebrae appeared slightly abnormal. In the region of the right ureterovesical junction was a

shadow one centimeter in diameter, probably a stone in the ureter. The true pelvis contained numerous pin-head sized areas of increased density some of which were thought probably to be in the walls of the pelvic vessels.

On the fifth day there were a few fine râles at the right base posteriorly and very slight pitting edema over the tibiae. The fluid intake was kept up with clyses.

On the seventh night she became irrational, screaming on being touched. She vomited everything taken and was dehydrated. She was quieted with morphia and scopolamin in order to carry out treatment. A lumbar puncture was negative. From this time she could take nothing whatever by mouth, grew weaker, developed signs of bronchopneumonia, and twelve days after admission died.

Clinical Discussion

Dr. Maurice Fremont-Smith: This is a history from which we cannot draw many conclusions. We might say it was consistent with vascular nephritis with hypertension because of the blurring of vision, dizziness, frequency of urination at night and her headaches. On the other hand that does not explain the fact that she had blood in her urine. "The urine looked bloody" does not mean anything. It certainly does not explain the urgency, which is not part of the picture of kidney failure. Urgency means a lesion or irritation in the trigone or in the bladder itself. Urgency, if that observation can be held to be correct, is a definitely localizing symptom. If we assume a high blood pressure and consequent sclerosis of the arterioles in the kidney, we then have reason for a failing heart and for her edema and dyspnea. I do not think we can go much farther than to theorize about that history. In the background, in a colored person, is always the possibility of syphilis. A negative Wassermann does not necessarily mean that there is no syphilis. One may have central nervous system syphilis with a negative Wassermann. On the other hand there is nothing to make us definitely think of syphilis. We know because of her quinsy that she had had frequent sore throats, for a person who has quinsy once has chronically infected tonsils. If there is one definite indication for tonsillectomy it is quinsy. Therefore we have some reason to think she may have a rheumatic heart. She was lying flat in bed in no apparent discomfort; therefore we know that she is not suffering from acute cardiac failure at the present time.

"The breath was ammoniacal." That again I question, in the first place because one cannot depend much on that statement and in the second place because even though we may find that, she has a high non-protein nitrogen.

"She was almost comatose but fairly clear mentally." Evidently she gave fairly accurate answers to the questions. A person almost comatose from uremia would not give accurate answers to questions. He would be mentally clouded. That statement might apply to an exsanguinated patient or a patient who had pyloric obstruction and was vomiting and so was extremely weak yet might still cerebrate very well. It does not seem to me to be consistent with uremia.

"Scattered over the body were blotchy irregular areas of light pigmentation." Chloasma is a name for something of that sort. I do not know that it is the explanation here.

"The supracardiac dullness was 6 centimeters," There was enlargement of the heart; not of the aorta.

This is a very good description of the murmur heard in aortic regurgitation, so that we may believe it to be true and then explain why it is there.

From the blood pressure I think we may be sure of hypertension and the results of hypertension, and that may explain everything.

"There was a pistol shot over the brachials and a diastolic murmur heard over the femoral arteries." That is interesting, with a diastolic pressure of 110. Of course I think one had better believe the pistol shot and the early diastolic murmur rather than the blood pressure. On the other hand, we can have an early diastolic murmur and have aortic regurgitation with very little change in the diastolic pressure, but we should not have a pistol shot. So we have to throw out the pistol shot or the diastolic pressure. It does not change the fact that she has aortic regurgitation; knowing that, we may have been influenced to hear a pistol shot where it was not present. The murmur heard over the femoral artery is the so-called Duroziez's sign.

The question is, is she uremic or is she simply arteriosclerotic with the accompanying changes, which include changes in the kidneys which if they went far enough might bring on uremia? The aortic diastolic murmur, is that rheumatic or is it syphilitic? I think that if we have syphilis of the aorta and aortic regurgitation as a result of it, the chances of a negative blood Wassermann are slight. In other words, the fact that she had a negative blood Wassermann would be very good evidence in favor of its being rheumatic aortic regurgitation. That is not always true. We can have syphilis that is burned out and has left an aortic regurgitation. Then also we can have an arteriosclerotic lesion as a result of a high blood pressure, in which we have an aortic regurgitation. That does happen. My experience, however, with aortic regurgitation which is the result of arteriosclerosis is that we have a little murmur and we get a little leak but we do not have pistol shot. Therefore I should be inclined to throw that out and to try to differentiate a syphilitic and a rheumatic type of injury. She is a little old, perhaps, for a luetic type. The luetic patient is apt to have,

in addition to aortic regurgitation, pretty severe cardiac damage which brings failure rather earlier than this. But this is not very late for it. We will go on and see what other evidence we have.

This urinary condition is not the result of nephritis. It is the result of a local bladder lesion and goes with her urgency. We have urgency and hematuria here in a patient with chronic nephritis, nephritis of a type that does not give many red cells. We may have acute nephritis that goes on to a chronic nephritis with blood in the urine, but we do not have so many cells nor do we have smoky and red urine. The urgency does not go with it. I think those two things would better be taken together as some local lesion in the bladder, possibly tumor or a stone. It would have to be more than a trigonitis to give so much blood. She could have a marked cystitis.

A STUDENT: What about albumin?

DR. FREMONT-SMITH: Wherever you have as much blood as that you will always have albumin.

A STUDENT: How about the specific gravity?

DR. FREMONT-SMITH: I think that goes with the arteriolar sclerosis of the kidneys and the chronic nephritis. In other words we have to assume enough injury in that kidney to be giving her uremia, and I have to modify some of the remarks I made before.

Her anemia, perhaps a combination of a chronic nephritis and loss of blood, I think it would be wrong to put under the head of nephritis only.

I think we have to assume again a terminal infection, such as these uremics almost always get, as explanation for the high white cell count and the terminal rise in temperature. We do not know yet what that infection may be.

A stone in the lower ureter would explain the bladder symptoms. It would explain the blood.

DR. GEORGE W. HOLMES: The shadow mentioned is on the right side near the junction of the ureter with the bladder. It is not characteristic of stone, but could be one; it might be a phlebolith. There are two other similar shadows lower down, probably phleboliths. This film does not include the region of the trigone, and the kidney shadows are not very well shown. I am not certain whether they were normal or not. There is a large amount of foreign material in the colon which obscures the picture somewhat. The spine shows atrophic changes.

DR. FREMONT-SMITH: What were those abnormal fourth and fifth lumbar vertebrae?

DR. HOLMES: I think that means an anatomical variation. I cannot say exactly what the anatomical variation is.

DR. FREMONT-SMITH: We have then multiple lesions. We have probably a rheumatic heart. I say that in the face of some evidence against it. There ought to be mitral stenosis. Sometimes we do not get it. A mitral stenotic murmur is very variable. If the heart is not working we may not hear it, whereas if a murmur be present at all in aortic regurgitation it is almost always audible. I do not know whether in a very large heart dilatation from long continued increased blood pressure would ever stretch the mitral ring and perhaps cause the disappearance of a murmur that had been there earlier.

DR. TRACY B. MALLORY: Cardiac dilatation would not stretch a truly sclerotic valve; such a valve is much too firmly scarred to make that possible.

A STUDENT: Isn't it possible that there are arteriosclerotic changes in the aorta causing an aortic leak?

DR. FREMONT-SMITH: It is possible. I spoke of that, but in my experience the regurgitation is never very marked. Such a lesion would be consistent with this blood pressure, in which the diastolic is not low.

If we throw out the pistol shot we have here a regurgitant murmur which is perfectly consistent with arteriosclerosis, and I think perhaps that is the safest diagnosis,—a heart which is suffering from hypertension and which has failed, in which there is arteriosclerosis of the aorta and the aortic ring; kidneys which have suffered from hypertension, in which the glomeruli have one by one been thrown out of business, the result being insufficiency of kidney function; and in addition a local hemorrhagic bladder lesion which together with the secondary anemia caused by the nephritis has resulted in marked anemia. She has a terminal bronchopneumonia. She may have other terminal infections. We always think of and very rarely prove a pericarditis.

A STUDENT: Is as much anemia as that consistent with a local bladder lesion?

DR. FREMONT-SMITH: She was losing a great deal of blood. The urine was persistently red in the hospital, and it was reported as red before she entered; and you know it does not take much loss of blood over long periods to cause marked secondary anemia. Sometimes hemorrhoids will do it. So I think we can say that anemia is part of the picture.

A STUDENT: Do you think that stone would cause such loss of blood?

DR. FREMONT-SMITH: That is a very good question. The stone must be very close to the bladder, or there may be another stone in the bladder. Such a stone certainly could cause bladder symptoms and a moderate amount of bleeding over short periods, but it is unusual for a stone to cause much loss of blood over any long period; and to cause bleeding a stone must move. If a stone moves in the ureter it causes much pain; a stone in the bladder likewise causes much discomfort and pain.

A STUDENT: You cannot rule out neoplasm, can you?

DR. FREMONT-SMITH: I do not think we can.

CLINICAL DIAGNOSES (FROM HOSPITAL RECORD)

Chronic glomerular nephritis.
Uremia.
Hypertensive heart disease with aortic regurgitation.

DR. MAURICE FREMONT-SMITH'S DIAGNOSES

Hypertensive heart disease.
Hypertensive disease of the kidneys.
Uremia.
Local bladder lesion with bleeding.
Secondary anemia.
Terminal bronchopneumonia.
Possibly terminal pericarditis or other terminal infection.

ANATOMIC DIAGNOSES

1. *Primary disease.*
   Subacute glomerular nephritis.
2. *Secondary or terminal lesions.*
   Bronchopneumonia.
   Slight bilateral hydrothorax.
   Acute terminal endocarditis, aortic and mitral.
   Cardiac hypertrophy, hypertensive type.
   Arteriosclerosis, moderate, aortic and coronary.
   Thrombophlebitis of the right ovarian vein.
3. *Historic landmarks.*
   Calcification of the right uterine artery.
   Phleboliths in the uterine venous plexuses.
   Endometrial polyp.

PATHOLOGIC DISCUSSION

DR. MALLORY: We found a pair of kidneys weighing 550 grams, the capsules of which stripped with ease, leaving a smooth pale brownish surface irregularly dotted with petechial hemorrhages. The pelves, ureters, bladder, all contained dark bloody urine. There was no stone. There was a phlebolith in a vein, which was the same size and in the same location as the shadow shown in the x-ray. Kidneys of such a gross appearance of course could not be due to vascular nephritis. Vascular nephritis never gives large pale kidneys. This is the picture of a subacute glomerular nephritis, which it is well to remember can occur at any age. I have seen acute nephritis of the ordinary glomerular type at seventy-five.

The heart was considerably enlarged, weighing 500 grams. The aortic and mitral valves both showed very minute pinkish granulations along the lines of closure; that is, an acute terminal endocarditis. The granulations, however, were so small that I found it hard to believe that they could have had much functional effect. The aortic ring measured 7.4 centimeters, which is along the lower rather than the upper limit of normal figures. There cannot have been much functional regurgitation, and I have no explanation of that diastolic murmur. There was a very slight terminal bronchopneumonia.

DR. FREMONT-SMITH: She had then an acute nephritis?

DR. MALLORY: It is a little more than an acute nephritis. Histologically it shows both an acute and a subacute process. It had probably been running six months or a year. It was undoubtedly of streptococcic etiology, I think, undoubtedly of connecting up with her repeated sore throats. Her age and the phleboliths of course were confusing.

DR. FREMONT-SMITH: Also her hypertension. How long does it take hypertension to develop in acute nephritis?

DR. MALLORY: One can get a pretty high blood pressure even within the first week, and certainly within a month it can develop.

DR. FREMONT-SMITH: Then that urgency perhaps was due to a clot of blood in the bladder? We have to have some explanation of that.

DR. MALLORY: It is possible, although it would take a great deal of blood to clot in the bladder. I should doubt if one would get enough from a hemorrhagic nephritis to clot.

A STUDENT: Would you assume that the heart was enlarged during the stages of this nephritis?

DR. MALLORY: I think the enlargement of the heart is entirely secondary to the hypertension produced by the nephritis.

A STUDENT: Does it develop as quickly as that?

DR. MALLORY: It is a matter of a few months. I think it is a pretty good rule in every case of nephritis to estimate from the history as liberally as you can the probable duration, and then if you double or triple that period you will be somewhere near the actual duration of the disease. I am sure that nephritis, like hepatic cirrhosis, is often a silent lesion for a considerable period of time and that the history seldom gives a fair idea of the actual duration of the disease. Again and again patients have come in with symptoms of only six weeks' duration, and the pathology proves that the process has been going on for six months. That is particularly true of adults in contrast to children.

A STUDENT: Do you think these early joint symptoms had any relation to a streptococcic focus and were not rheumatic in origin?

DR. MALLORY: I think undoubtedly. I think everything in this case can probably be tied up with streptococcus infection,—the joints, the sore throats, the kidneys, the final endocarditis.

DR. FREMONT-SMITH: It is interesting that two years before entry she had pains in her joints and an attack of quinsy.

DR. MALLORY: It may well have been the start of the disease.

DR. FREMONT-SMITH: You are willing to admit, then, a certain amount of chronicity of the nephritis?

DR. MALLORY: Of course it is an academic question where one is to draw the line. We ordinarily do not call a nephritis chronic until we have atrophic kidneys, whereas she still had hypertrophic ones.

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HYPERINSULINISM

FEW clinical states as rare as that of hyperinsulinism, described tentatively only nine years ago by Seale Harris[1] in his paper "Hyperinsulinism and Dysinsulinism," are as well understood after a short period of time. Today the medical literature has become fairly well filled with clinical and pathological accounts of cases of hyperinsulinism, practically all associated with adenoma of the islands of Langerhans. Due to the symptomatology, undoubtedly some cases were wrongly diagnosed as epilepsy in the past, but in recent years, with interest in the condition aroused, few have been missed.

The existence of adenoma of island cell type was known anatomically for decades before the clinical manifestations were connected with the insular changes. At present the symptom complex of progressive hunger and weakness followed by convulsive seizures, and accompanied by low blood sugar, has become so thoroughly established that operative intervention with the expectation of finding adenoma of the islands is definitely indicated. The dramatic relief of symptoms with food or glucose administration is startling, and the large amounts of carbohydrate required by some cases almost unbelievable.

The size of the tumor is usually small and impresses one with the potent secretory activity of the cells involved. Many of the reported tumors are one inch or less in diameter. Of course it must be remembered in this connection that the islands make up only about three per cent of the pancreatic tissue normally, so that a tumor weighing only two or three grams would represent an enormous increase in the internal secretory tissue of the pancreas. Moreover, the tumor tissue seems to be constantly active and freed from any inhibitory mechanism.

In all instances recognized at operation the cures have been dramatic and complete. The careful studies by Bensley of the epithelium of the islands and the application of these studies to the pancreatic adenomas by himself and others have led to the discovery that most of the adenomas are made up of cells of the beta type. These adenomas, together with the striking case of Wilder, Allan, Power and Robertson[2] in 1927, in which insulin was recovered from the liver metastases of a carcinoma of island cell type, have definitely established the rôle of the beta cell as the insulin producing cell. It is interesting to note in this as in other lines of endeavor that the experiments worked out for us by nature often surpass in clarity and simplicity those that we have been able to devise in the experimental laboratory.

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1 Harris, S.: Hyperinsulinism and dysinsulinism. J. A. M. A. 83: 729 (Sept. 6) 1924.
2 Wilder, R. M.; Allan, F. N.; Power, M. H., and Robertson, H. E.: Carcinoma of the islands of the pancreas. J. A. M. A. 89: 348 (July 30) 1927.

STATESMANSHIP IN MEDICINE

AT the present time there are numerous problems confronting the medical profession. They may be regarded as having to do with disease, its cause, prevention, relief and cure; with the education and training of physicians; with the relations of physicians to other physicians, that is with the organization of the profession; with specialism; with commercialism in medicine; with hospitalization of medicine; with the qualifications for the practice of medicine, especially as these involve the cults; with the relation of the profession to the government, to movements in society which impinge on medicine for good or ill, to society as a whole. Some of the problems are soluble, that is, once solved they do not recur. Others are perennial and insoluble; that is, in spite of some sort of solution today,

the same kind of problem will face us tomorrow, "old foes with a new face", because they arise from permanent conflicting tendencies in human nature, and a reconciliation can occur in a limited field only, and for a limited time.

In the Greek city-state, politics was identical with statecraft and did not carry the derogatory implication which our "politics" bears. But we need a vision that transcends politics even in the better sense, and includes the whole profession and its relation to the whole society, a vision that sees beyond the temporary and the transient. We need leaders of profound insight with a grasp of principles, for it is only by understanding principles that practice can be made intelligent. "A man of ordinary proportion or inferior metal knows not how to think out the rounded circle of his thought, how to divest his will of its surroundings and to rise above the pressure of time and race and circumstance, to choose the star that guides his course, to correct and test and assay his convictions by the light within."

Where shall we look for leadership in the new days that are before us, when we are to reach some kind of new solution for our problems? Leaders we need; where are they? Are we to find them in the ranks of officials in organized medicine? Are they among those distinguished in the science or the art? Are they to come from the group of younger men whose promise is known only to those close by them? We trust we shall not have to wait too long, for the need is urgent.

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

WALKER, IRVING J. A.B., M.D. Harvard University Medical School 1907. F.A.C.S. Surgeon-in-Chief, Harvard Surgical Teaching Service, Boston City Hospital. Clinical Professor of Surgery, Harvard Medical School. His subject is "The Award of the Henry Jacob Bigelow Medal." Page 921. Address: 520 Commonwealth Ave., Boston.

CUSHING, HARVEY. His subject is "Homo Chirurgicus." Page 922. Address: 305 Walnut Street, Brookline, Mass.

CHEEVER, DAVID. A.B., M.D. Harvard University Medical School 1901. F.A.C.S. Surgeon, Peter Bent Brigham Hospital. Associate Professor of Surgery, Harvard Medical School. His subject is "The Presentation of the Medal." Page 929. Address: Peter Bent Brigham Hospital, Boston.

STUART, HAROLD C. M.D. Columbia University College of Physicians and Surgeons, 1918. Assistant Professor of Pediatrics and Child Hygiene, Harvard Medical School and School of Public Health. His subject is "Medical Supervision of Normal Children Under School Age. Modern Concepts of Its Scope." Page 932. Address: 55 Van Dyke Street, Boston.

VAN INGEN, PHILIP. His subject is "Medical Supervision of Normal Children Under School Age. Present Extent of Its Application." Page 935. Address: 125 E. 71st Street, New York, N. Y.

HILL, LEWIS WEBB. A.B., M.D. Harvard University Medical School 1913. Instructor in Pediatrics, Harvard Medical School. Associate Physician, Children's Hospital. His subject is "Child Health Conferences and the Doctor's Bread and Butter." Page 942. Address: 319 Longwood Avenue, Boston.

SWETT, PAUL P. M.D. University and Bellevue Hospital Medical College 1904. F.A.C.S. Consulting Orthopaedic Surgeon, Hartford Hospital. Attending Orthopaedic Surgeon, Charlotte Hungerford Memorial Hospital. Address: 4 Atwood Street, Hartford, Connecticut. Associated with him is

MCPHERSON, S. H. M.D. Tufts College Medical School 1913. Orthopaedic Surgeon, Hartford Hospital. Attending Orthopaedic Surgeon, Newington Home for Crippled Children and Children's Village. Address: 179 Allyn Street, Hartford, Conn. Their subject is "Important Factors in the Treatment of Compound Fractures." Page 946.

SISE, LINCOLN F. A.B., M.D. Harvard University Medical School 1901. Anesthetist, Lahey Clinic. His subject is "The Explosibility of Nitrous Oxide-Ether Mixtures." Page 949. Address: 605 Commonwealth Avenue, Boston.

MISCELLANY

A RADIO MESSAGE PREPARED AND SPONSORED BY THE COMMITTEE ON PUBLIC EDUCATION OF THE MASSACHUSETTS MEDICAL SOCIETY FOR THE DEPARTMENT OF PUBLIC HEALTH

OUR VITAMINS*

BY DWIGHT O'HARA, M.D.

A vitamin may be defined as a food factor of unknown nature, the presence of which in the diet is essential for health, and the lack of which gives

*Station WBZ, November 8, 1932, 4:15 P.M.

rise to signs or symptoms of illness. The illnesses which are brought about by the lack of these essential food factors are known as "deficiency diseases". A diet that contains the essential food factors and thus prevents the development of these diseases is called a "protective diet".

There are many deficiency diseases, and some of them have been recognized for a great many years. The disease scurvy, from which the crews of old-time sailing vessels suffered, is the best known example. Nearly two centuries ago it was pointed out that scurvy could be prevented by drinking lemon juice, and gradually it has been recognized that many other foods contain this scurvy preventing substance which is now called Vitamin C. Until half a century ago another deficiency disease, beri-beri, was prevalent in the Japanese navy. In 1885, however, it was discovered that the addition of barley to the polished rice diet of the Japanese provided a measure that both cured and prevented beri-beri. This was because the barley contained a substance which was later called Vitamin B.

During the past quarter of a century, and more especially during the past decade, our knowledge of these vitamin food factors has greatly increased, and there are now recognized and named the following varieties:

Vitamin A — the lack of which interferes with normal animal growth and makes the animal more susceptible to infection in general, and to certain infections of the eye in particular. Vitamin A is found in abundance in spinach, lettuce, cabbage, cauliflower, tomato, milk, butter, egg yolk and certain fish oils, such as cod liver oil. It also seems to be intimately associated with a yellow pigment, carotin, which is found in yellow corn, carrots, squash and sometimes in cream.

Vitamin B — the lack of which interferes with normal growth, produces a condition known as polyneuritis in animals, and is the cause of beri-beri in man. Vitamin B is found in many of our daily foods, such as egg yolk, green vegetables and whole grains.

Vitamin C — the lack of which produces scurvy and may also lead to other related states of ill health, such as pyorrhea, which is closely associated with scurvy. Vitamin C is found in abundance in the juices of oranges, lemons and tomatoes. Other ordinary foods such as lettuce, spinach, cabbage, apples and other fruits contain it in smaller amounts.

Vitamin D — the lack of which allows the development of rickets in infants. Vitamin D is present in many of the fish oils, and in smaller amounts in other food fats. Many other foods acquire the antirachitic properties of this vitamin when they are exposed to ultraviolet rays. Vitamin D itself has been isolated and identified, chemically, as a sterol. After having its antirachitic properties enhanced by ultraviolet irradiation it is now called "viosterol".

Vitamin E — the lack of which interferes with normal growth and causes sterility in certain laboratory animals. It is conceivable, but by no means proved, that the lack of this vitamin may be a factor in some cases of sterility in man. Vitamin E is present in lettuce, cereals, fresh meat and the yolk of eggs.

Vitamin G — is very closely related to vitamin B — in fact, the English call it B_2, instead of G. Its absence in the diet is now rather widely accepted as the cause of pellagra in man and of some more or less analogous diseases in animals. What we now speak of as Vitamin G is a very complex substance and is very likely to be separated in the future into a group of vitamins. At our Boston City Hospital this year Doctors Castle and Strauss have identified Vitamin G as containing one of the two factors, the lack of which in combination causes pernicious anemia. This is a far-reaching discovery in our knowledge of deficiency diseases. Vitamin G is found in green vegetables, bananas, brewer's yeast, many meats and other common articles of food.

In all probability we vary in our individual susceptibility to deficiency diseases. On an equally restricted diet, as with an equal exposure to infection, there would be great variation in the suffering produced. There are certain well-known rules that are followed in advising the diets of infants, children and adults. Most ordinary people who follow these ordinary rules will not suffer from lack of vitamins. On the other hand, those extraordinary individuals who must indulge in dietary fads and fashions may endanger their health. They may so chisel the variety of their daily food intake that they suffer in a vague way from vitamin deficiency. Their health may thus be impaired, even though they do not develop signs and symptoms which can at the present time be recognized as deficiency diseases. In such instances there is usually a deficiency of several, rather than one particular vitamin.

The subject of vitamins, for the purpose of this broadcast, may be summarized as follows:

The lack of certain essential food factors causes certain diseases.

There is, in addition, a great deal of uncertainty that is due to our incomplete knowledge of these food factors.

The food factors themselves are called vitamins.

The diseases which are caused by their absence in the diet are called deficiency diseases.

Diets which contain the essential food factors are called protective diets.

Protective diets, then, prevent the development of deficiency diseases.

The vitamins which are known seem to abound in our ordinary diets, and do not ordinarily require the special vehicles which are frequently advertised to carry them. Vitamin C is the only one that is destroyed by heat, and is probably often so destroyed by home canning processes.

Many of the commercial canning processes, however, are so regulated that most of the Vitamin C substance is retained.

It is difficult to give general directions as to what constitutes a protective diet. Based on current prices, it is probable that a generally protective diet would be obtained for any person who will divide his board money into four equal parts, and spend it as follows:

One-quarter for fruit and vegetables.

One-quarter for meat and fish.

One-quarter for eggs, milk and dairy products.

One-quarter for grains, cereals, nuts, condiments and other food adjuncts.

Such a formula is more idyllic than ideal, but it perhaps signifies that variety in the diet is in itself a worth while value.

AN ADDRESS BY DR. LOUIS E. PHANEUF

Dr. Louis E. Phaneuf addressed the Academy of Medicine of Northern New Jersey on Thursday evening, April 20, the subject of his paper being "The Low or Cervical Cesarian Section—Technique and End-results of 515 Personal Operations."

CORRESPONDENCE

WHAT OF PROGRESS IN DEALING WITH TUBERCULOSIS?

April 24, 1933.

Editor,
New England Journal of Medicine,

Is the antituberculosis game in the position of stalemate? Must we acknowledge that we are beaten? The Children's Campaign, which at one time looked so promising, is probably going to show very poor ultimate results and will continue in this way unless a much more intensive and necessarily expensive campaign is waged.

In a recent newspaper interview, Dr. George H. Bigelow, in an extravagantly hopeful mood, says that tuberculosis will disappear like typhoid and practically confutes this statement in his next sentence by giving the rating of cases in the Middlesex County Sanatorium. This is probably the finest sanatorium in the world and it is most ably conducted by Dr. Sumner H. Remick, but what chance has Dr. Remick, or any other superintendent, for a record of successful cures if 80% of his patients belong to the II and III stage groups? Could not many of these cases be treated at a less expensive Colony Workshop where, under the best climatic conditions and under competent medical supervision, they could learn a trade and earn a few dollars weekly for their families while under treatment and make more beds available for incipient cases?

How are we going to get early cases for sanatorium cure? Everyone agrees that, fundamentally, we must teach medical students the technique of examination and care of an incipient tuberculosis case. The Harvard Medical School is charged with neglecting the incomparable clinic at the Middlesex County Sanatorium as a teaching unit. Who is responsible for this? Whoever is responsible, can he not be prevailed upon to use your columns in explaining his point of view?

Truly yours,

WALTER C. BAILEY, M.D.

87 Milk Street, Boston.

REVOCATION OF THE REGISTRATION OF DR. T. T. FRENCH AND THAT OF DR. A. R. GOODMAN

The Commonwealth of Massachusetts
Department of Civil Service and Registration
Board of Registration in Medicine
State House, Boston

April 26, 1933.

New England Journal of Medicine,

At a special meeting on April 20, 1933, the Board of Registration in Medicine voted to revoke the license of Dr. Townley T. French, of 4 Melrose Street, Boston, on account of his conviction in court on the charge of manslaughter.

At the same meeting the license of Dr. Abram Robert Goodman of 1061 Hancock Street, Quincy, was revoked because of his court conviction on the charge of conspiracy with intent to defraud.

STEPHEN RUSHMORE, M.D., *Secretary.*

AN EXPRESSION OF APPRECIATION AND AN ACCOUNT OF ACTIVITIES IN A HOSPITAL IN SOUTH INDIA

American Madura Mission
Albert Victor Hospital
Madura, South India

March 26, 1933.

Dr. Walter L. Burrage, Secretary,
The Massachusetts Medical Society,
Brookline, Mass.

Dear Dr. Burrage,

The enclosed formal acknowledgment of the generous vote of the Massachusetts Medical Society does not in any way voice my appreciation of this action which you have annually taken for so many years and which permits me to keep up my connection with the homeland and the State of my birth. I am therefore writing a letter to express more fully my appreciation.

Our little 40-bed hospital has treated 649 inpatients this last year, but its total occupancy has been 110% indicating that there were many times when we had them lying about on the floors and verandas. In the O. P. D. we have seen an average of 139 per day, or over 44,000 for the year.

As I look through the census today there are not many interesting cases; most of them junk. We have however recently admitted a case, pleurobronchial fistula as nearly as we can make out. There are only two diabetics now, one entirely sugar free on diet, a fairly unusual case in this

land where rice is the main article of diet and where many are strict vegetarians refusing even to take eggs. A short time ago we had seven diabetics out of a total of 42. We have a secondary syphilide, two tertiaries, and two ascitics with cirrhosis and a positive Kahn. Two pulmonary T.B.'s, another T.B. glands of axilla and neck and two T.B. abdomens, one of them that of the cecum convalescing after anastomosis of terminal ileum and transverse colon. A schoolboy with a temperature of 105° and marked tenderness in the hip led us to a diagnosis of acute "osteo" but turned out to be an acute infectious arthritis. Surgery comes and goes. At present we are rather short on it. A pyloric ulcer awaiting operation, and a pedicle graft on a large burn are about all we have in. An interesting case is a chronic arthritis of the hip, probably leprotic as the patient is an advanced leper.

During the year we have examined 275 schoolboys in our schools and 150 college students and given lectures on sex hygiene in the college and one of the normal schools as a small contribution to hygiene.

As everywhere, finances have presented an interesting problem. Our Mission Board allows us $800 toward the maintenance of the hospital and another 5% cut goes into operation next month. Grants from Government bodies have decreased nearly 50%. Strangely enough our fee intake increased last year and with contract work for a large cotton mill enabled us to end the year with a deficit of less than $100.

Indian politics makes India an interesting place to be these days, and we look for interesting developments this year.

Again thanking you and, through you, the Massachusetts Medical Society for its generous action, I remain,

Yours sincerely,
E. W. WILDER.

RECENT DEATHS

KENNEDY—JAMES SIMON KENNEDY, M.D., died at his home in West Medford, April 25, 1933. He was born in Port Phillip, N. S., in 1866 and graduated from the Dalhousie College in 1891 and the Boston University School of Medicine in 1894. He is survived by two sisters, Mrs. M. E. Marshall of Cambridge, and Mrs. Margaret MacDonald of Pugwash, N. S., and a brother, Levi Kennedy, of Port Phillip, N. S.

FISH—ERNEST CLIFFORD FISH, M.D., of 145 Bellevue Avenue, Melrose, died April 25, 1933. He was born in Newcastle, N. B., February 11, 1868. His premedical education included graduation from the University of New Brunswick and the Massachusetts College of Pharmacy. He took his M.D. degree from McGill University Faculty of Medicine in 1896 and joined the Massachusetts Medical Society in 1897 and was also a Fellow of the American Medical Association.

Dr. Fish served on the school committee of Melrose for a considerable time and also on the draft board during the war. His religious affiliations were with the Congregational Church of Melrose.

He is survived by his widow, Bessie Wheeler Fish, a son, Dr. James E. Fish of Melrose, a daughter, Mrs. Susan B. McLeish of Havre, Montana, and a brother, Charles Fish of Newcastle, N. B.

NOTICES

REMOVALS

GEORGE C. SHATTUCK, M.D., announces the removal of his office to the Harvard Medical School, Building D-1.

SAMUEL SIDELL, M.D., announces the removal of his office to 311 Commonwealth Avenue, Boston.

RADIO HEALTH MESSAGES

MAY-JUNE, 1933

Sponsored by the Public Education Committee of the Massachusetts Medical Society and the Massachusetts Department of Public Health.

Courtesy WBZ. Tuesdays, 4:30 P.M.

May
9 Goiter
16 Arteriosclerosis
23 Chronic Bronchitis
30 Neurasthenia

June
6 Safer Maternity
13 The Care of the Skin
20 A Heart to Heart Talk
27 Social Service in Public Health

STATE HOUSE BROADCAST

Sponsored by the Massachusetts Department of Public Health.

Courtesy WEEI. Fridays, 12:45 P.M.

Health Subjects of Public Interest discussed by the Division Directors of the Department.

RADIO HEALTH FORUM

Queries from the public are answered under the sponsorship of the Department of Public Health.

Courtesy WEEI. Fridays, 4:50 P.M.

Questions on Health and Prevention of Disease may be sent to Radio Health Forum, State Department of Public Health, State House, Boston.

REPORTS AND NOTICES OF MEETINGS

NEW ENGLAND PEDIATRIC SOCIETY

The New England Pediatric Society met on Friday, March 3, 1933. The afternoon session was devoted to a clinical program at the Children's Hospital.

Dr. Kenneth D. Blackfan presented the medical cases, first discussing the condition of xanthomatosis in children. The first patient was a girl of about six years of age, whose mother had noticed two years ago that the child was developing some small, yellow, raised nodules over her elbows. Later the nodules appeared on the knees, and more recently in the tendon sheaths over the heels. The family history was interesting in that the mother has xanthoma palpebrarum. The patient's blood cholesterol was 350-375 mg. per 100 cc., the normal at her age being 150 mg. The pathologic picture is that of fat-laden phagocytic cells. The diagnosis was, in this child, xanthoma tuberosum multiplex.

The next patient was a 20-months old male infant, whose mother had noticed a crop of raised, yellow papules come out on his back at the age of 16 months. The lesions spread until they involved practically the entire body with the exception of the head and face. Biopsy showed a pathologic picture of groups of "mast" cells—the so-called "urticaria pigmentosa". This condition is non-allergic, tends to persist, and does not respond to any known therapy. By irritation of the skin involved marked dermatographia is elicited.

The third medical patient was a baby girl of 17 months who had been becoming increasingly pale and wax-colored since ten months of age. Family history and past history were negative. The feeding had been adequate and liver had been administered by the local physician for anemia. Because the child failed to respond well to treatment, she was brought to the Infants' Hospital. On admission her hemoglobin was 16%, the red blood count 2,300,000, and the white count normal. Infection was first suspected, and a chest plate showed moderate peribronchial infiltration, and in addition what was probably a gas-filled viscus in the thorax. Barium studies revealed the presence of a diaphragmatic hernia, with the stomach in the thorax. There was a functional achlorhydria, but acid was present after histamine. Gastric contents and feces continually showed a markedly positive test for occult blood.

The association of such a congenital malformation with a secondary anemia is not unknown and has been reported before. In regard to the whole question of secondary anemia in infants, Dr. Blackfan presented the following statistics: Of 1000 consecutive admissions to the Infants' Hospital, anemia (red blood count below 3,500,000, hemoglobin below 65%) was present in 386 cases. The relative importance of various factors in the production of these anemias is indicated by the following figures:

Infection—55%
Premature birth—17%
Disturbance in diet—16%
Congenital malformations—3%
Blood disturbances—6% (hemorrhagic disease of the newly born—1.5%)
Miscellaneous — 3% (Erythroblastic, malignancy, poisons, etc.)

Three orthopedic cases were presented by Dr. Frank Ober. The first patient was seven years and three months of age. He was presented as a case of Legg's disease. His parents had noticed that he had been lame for the past two months, although there was no pain. Physical examination showed limitation of abduction chiefly; x-ray films showed considerable joint destruction. Although these patients usually get well without treatment, in this instance it was thought wise to put on a plaster spica to preserve the joints.

The second patient was eight years and three months of age, and complained of a right-sided limp of one year's duration and pain in the right hip of four months' duration. Examination showed a waddling gait and a bilateral flexion deformity of thirty degrees. Tuberculin and Wassermann tests were negative. The patient was very obese, weighing 143 pounds. Blood calcium was 11.8, phosphorus 4.8, and sugar 105 milligrams per cent. The basal metabolic rate was —19. X-rays showed typical bilateral slipped upper femoral epiphyses. Treatment is exercise with mild traction, and some plaster immobilization for a year. Operative treatment is not indicated, because there is probably some other factor behind the process than just the local affair.

The third case was a little boy three years and four months of age with what is now fortunately a comparatively rare disease—tuberculosis of the spine. Although this child had always been fed pasteurized milk, he had played about in the yard of a house in which, on another floor than his own, had lived a tuberculous patient very careless with his sputum. This was presumably the source of infection. On entry the white blood count was 12,600, with 47 per cent polymorphonuclear cells and 49 per cent lymphocytes. The tuberculin test was positive in a dilution of 1:1,000,000. There was a dorsal kyphos and by x-ray a posterior mediastinal abscess. The latter makes the surgeon chary of immediate hyperextension. The lungs were clear, as is often the case. The serious complications of bone tuberculosis such as this are abscess, paralysis, and meningitis. The treatment is first, to clear up the active disease, and secondly, to do a spinal fusion.

Drs. Ladd, Lanman, McCollum, and Gross presented the surgical cases. The first patient was a boy of eleven and a half years of age who had a long story of a chronic non-tuberculous lung infection with numerous hemoptyses. The whole

thing commenced, at least symptomatically, with hemoptysis out of a clear sky over three years ago. Intercostal drainage and later rib resection, phrenicectomy, thoracotomy, and finally thoracoplasty were resorted to, and the last procedure, done very recently, has produced a symptomatic cure, at least thus far.

The second case was a girl, aged seven, who had had a chronic osteomyelitis of the right tibia, with almost complete destruction of the shaft. The upper ends of the fibula and tibia were united by operation, and then the two lower ends of the bones were fixed together. The patient is at present progressing very satisfactorily, and in place of her previous flail limb will have a functioning one.

The next case was a six-months' old baby whose parents, for the 16 days prior to entry, had noticed that the child was having great difficulty in urination, with some pain in the lower abdomen. Physical examination showed the lower abdomen to be full and moderately distended. The distention disappeared after catheterization. By rectum a large retrorectal tumor mass was felt, which seemed solid to a number of observers. Exploration was performed, and a large rounded tensely cystic mass found. The tumor proved to be an anterior meningocele though no connection with the spinal canal could be demonstrated at operation. It was only possible to remove about two-thirds of the cyst, because of the technical difficulties and the condition of the patient.

The last surgical patient was a baby admitted at four days of age with a large mass in the abdomen just above the umbilicus. X-ray films showed the tumor to contain bone and a diagnosis of teratoma was made, and the growth excised.

Dr. E. C. Vogt discussed, with the aid of lantern slides of x-ray films, the question of "Renal Rickets." This is by definition a rickets associated with and the result of kidney disease. Patients with these two ailments usually die in uremia in the early part of the second decade of life. In diagnosis it is important, of course, to rule out vitamin deficiency rickets. Renal rickets shows no response to vitamin D, and only improves with kidney improvement. The serum calcium is normal or low in the condition, the blood phosphorus high, and the blood phosphatase, in the few determinations that have thus far been done, is very high. The non-protein nitrogen of the blood is usually high, the phenolsulphonphthalein excretion low, and albumin and pus are usually found in the urine. Of aid in x-ray differential diagnosis from "ordinary" rickets are the following: (1) The bone lesions are usually asymmetrical and bizarre in location in renal rickets, and some bones are affected while others are not. (2) There is thickening of the cranial vault with a characteristic granular appearance to the bones. (3) There is often an "eaten away" appearance along the long bones. (4) The age at which renal rickets appears is usually two years or over. Hyperparathyroidism also has to be considered in the differential diagnosis of renal rickets—the high serum calcium and low phosphorus in the former aid in distinguishing the two.

At the conclusion of the afternoon meeting, Dr. Eugene C. Peck demonstrated a simplified baby carrier for infants—an apparatus the essential component of which is heavy one-quarter inch mesh screen wire, easily manipulated into shape by the hands.

THE CUTTER LECTURES

Dr. Eugene Opie of the Medical College of Cornell University delivered the Cutter Lectures on Preventive Medicine at the Harvard Medical School on April 17 and 18 at 5:00 P.M. Dr. E. C. Rosenow presided.

The speaker chose as his subject "The Epidemiology of Tuberculosis." This disease is the chief cause of disability in early life in civilized nations. In China and India, where public health measures are inadequate to curb the progress of the disease, it takes a tremendous toll in life; while in backward countries where tuberculosis is a new disease, it ravages the populations and decimates their numbers.

There are two observations that have been important in the epidemiology of tuberculosis. (1) The disease constitutes a widespread infection with a low morbidity. (2) The tuberculosis of adults is a reinfection from without. With the advent of the tuberculin reaction it has been possible to ascertain the exact figures regarding the incidence of infection. This test is a positive indication of tuberculosis infection, and by applying it to different communities it has been found that not only is this infection widespread, but also its incidence varies greatly in different localities. In Philadelphia among the white population the children at 15 show 77% positive reactions; near Boston the figure is 52%; in Minnesota it is 12%. Incidence varies also among the races, for in Tennessee the whites show 65% positive reactions, while the colored show 73% positive reactions.

The radiographic method of examination has added much to the study of tuberculosis. The tuberculin test shows whether a person is infected, but the x-ray demonstrates the extent of the lesion. In some cases examined routinely with x-ray, the patient has no complaints, and yet active tuberculosis is found. The x-ray also indicates the nature of the tuberculous focus, whether it is of primary, childhood type or of the secondary, adult type of disease.

By means of a graphic chart, Dr. Opie was able to show the spread of tuberculosis within families in which one member had become infected. Several of these were shown to illustrate how infectious this disease is in a small group such as a family circle.

The speaker then outlined the findings of his

investigations, according to the following classification of clinical pulmonary tuberculosis:

Latent Tuberculosis

A. Latent tuberculosis with a positive tuberculin test but no lesions in the lungs by x-ray.
B. Calcified nodules in the lung substance. These are healed or healing lesions.
C. Latent infiltration of childhood type.
   (a) Soft or flocculent (potentially progressive).
   (b) Strand like (healed).
   In this group 35% develop clinical tuberculosis, and all of these are the soft or flocculent form.
D. Tuberculosis of the tracheobronchial lymph nodes.
   (a) Calcified. Of these 2% later develop clinical tuberculosis of the adult type.
   (b) Massive caseous.
E. Latent apical tuberculosis or latent adult form.
   (a) Supraclavicular.
   (b) Infraclavicular.
   Of these 18% develop tuberculosis later.
   If we divide the latent apical lesions, according to their extent into four groups, depending upon the extent of the disease, we find a gradual increase in those that develop clinical disease as we go from the least (6% becoming clinically manifest) to the greatest (50% becoming manifest) degree of involvement. Most of those who do develop the active disease do so before 40 years of age.

Manifest Tuberculosis

F. Manifest tuberculosis with sputum negative for bacilli.
   (a) Childhood type.
   (b) Adult type.
G. Manifest pulmonary tuberculosis with bacilli in the sputum.
   (a) Childhood type.
   (b) Adult type.

Studies were carried on in families to determine how often a wife or husband becomes infected when spouse has clinical tuberculosis. It was shown that 50% of husbands and wives develop tuberculosis by x-ray from contact with the infected marital partner, thus refuting the oft-held notion that the disease is not infectious because one mate does not contract the disease from the other.

Dr. Opie then considered the incidence of tuberculosis in people who are apparently healthy. Among 564 male students of college age, 5.3% showed latent apical tuberculosis above the clavicle; 0.9% below the clavicle, and 0.3% had clinical disease. Among 664 females of similar age group 3.0% had latent tuberculosis above the clavicle, 1.2% below the clavicle and 0.2% clinical tuberculosis.

Interesting figures were shown concerning the incidence of tuberculosis in medical students, and how this increases both in latent and clinical forms as the students progress in medical school.

Finally the speaker considered the difference of the clinical disease in civilized countries and in backward nations only recently exposed. In Jamaica the average duration of the disease is from six to twenty-seven months, while in Philadelphia it is from 15 months to five years. In Jamaica the average patient with open tuberculosis shows fifty bacilli per microscopic field to one or two in Philadelphia. These figures indicate how much more rapid and fulminating is the disease in new soil where it assumes the primary, childhood form.

GREATER BOSTON MEDICAL SOCIETY

The Greater Boston Medical Society and the Beth Israel Hospital Staff held a joint meeting on the evening of April 18, at 8:15 P.M., in the amphitheatre of the Beth Israel Hospital. This was the final meeting of the Boston Medical Society for the present year. Dr. William Dameshek presided.

Dr. Alice Ettinger was the first speaker of the evening. Dr. Ettinger has worked in the past with Dr. Berg in Berlin, and during the past year has been using the latter's methods for examining patients at the Boston Dispensary. This technique consists chiefly in giving the patient a substance which forms a coating over the mucosa of the stomach and intestine instead of completely filling these organs as is usually done. By this method all of the mucosal linings and its contours become visible in "relief".

One of the first discoveries from this method was that the mucosa of the stomach possesses a motility separate from that of the muscularis. Slides were shown to illustrate how the gastric mucosa changes its pattern depending upon the particular phase of digestion in which it is partaking. When digesting food, the mucosa is seen in transverse folds; when the stomach is emptying itself this layer is in longitudinal folds forming thus a funnel with the narrow end at the pylorus.

Dr. Ettinger showed a number of excellent radiographs of peptic ulcer, carcinoma of the stomach and of various pressure defects of the stomach and duodenum.

Studies of the colon showed how the ascending and transverse colon are in transverse divisions, apparently to facilitate absorption; the descending colon is in longitudinal folds, since its main function is transportation.

Dr. Ettinger concluded that by this method of examination one can often diagnose the lesions of the gastro-intestinal tract as surely as the pathologist does with the unaided eye.

Dr. Bernard I. Goldberg spoke on "Visualization of the Spleen and Liver by Means of Thorium Di-

oxide." The speaker outlined some experiments done with "Thorotrast." This substance is taken up by cells of the reticuloendothelial system, particularly in the liver and spleen, and since it is less penetrable by the x-rays than the surrounding tissues it causes these organs to cast a shadow. The radioactive substance itself also casts a shadow. Films were shown of rabbits that had been given this dye and the liver and spleen were well visualized.

This substance acts as an inert foreign material in the body and is eliminated slowly through the bile and urine. It is slightly radioactive, and as yet it is not definitely known whether this forms a more radioactive substance in the body. However, rabbits have lived without untoward symptoms for over two years after an effective dose. Experiments have also shown that it does not check the immunity powers of the body.

"Thorotrast" should not be used in children and young adults, because its action over many years is not known. Hepatic and kidney insufficiency are also contraindications. Furthermore it should be restricted to cases in which other methods of examination are inadequate. Because areas of carcinoma and abscesses do not take up this material, they are seen in the liver as a shadow in the midst of the opaque mass. One film was shown of a normal liver and another with a shadow suggesting metastasis from a malignancy.

WORCESTER NORTH DISTRICT MEDICAL SOCIETY

The Seventy-Fourth Annual Meeting of the Worcester North District Medical Society was held at the Burbank Hospital, April 24, 1933.

Dr. Francis M. McMurray delivered the oration under the title of "Some Observations on Anesthesia."

Officers elected for the ensuing year are the following: President, Dr. Charles E. Thompson; Vice-President, Dr. Louis Fish; Secretary, Dr. F. M. McMurray; Treasurer, Dr. Frederick H. Thompson, Jr.; Commissioner of Trials, Dr. Harry R. Nye; Councilors, Dr. F. R. Dame, Dr. Thomas R. Donovan, Dr. A. F. Lowell, Dr. Harry R. Nye; and Censors, Dr. Thomas R. Donovan, Supervisor; Dr. James J. Curley, Dr. George Mossman, Dr. Frederick H. Thompson, Jr., Dr. Alfred A. Wheeler.

Dr. John W. Barton of Fitchburg reported for the committee which had been appointed to consider the advisability of celebration of the Seventy-Fifth Anniversary, that under existing conditions this plan had better be given up.

A banquet was served.

Mayor Joseph N. Carriere and Ex-Mayor B. A. Cook made short addresses.

Dr. William E. Currier of Leominster was appointed by Dr. Robert Rice, retiring President, to bring in a memorial on the death of Dr. Harry P. Blodgett of Leominster.

SOUTH END MEDICAL CLUB

The next regular meeting of the South End Medical Club will be held at the office of the Boston Tuberculosis Association, 554 Columbus Avenue, Boston, on Tuesday, May 16, 1933, at 12 noon. The speaker will be Edward James Monahan, M.D., Assistant Visiting Surgeon, Ear Service, Boston City Hospital, Long Island Hospital; subject, "Sinus Thrombosis." All physicians are cordially invited to attend. Come and bring guests who are in the medical profession. The usual luncheon will be served at one o'clock.

NEW ENGLAND PEDIATRIC SOCIETY

FRIDAY, MAY 19, 1933

AFTERNOON SESSION

Children's Hospital Amphitheatre
4:00 P.M.—Clinical Meeting

EVENING SESSION

Boston Medical Library, 8:15 P.M.

1. Influenza Meningitis and Its Specific Serum Treatment. Dr. LeRoy D. Fothergill.
2. Discussion: Dr. James B. Ayer, Dr. Harold Higgins.
3. Refreshments.

NEW ENGLAND MEDICAL SOCIETY

The next regular meeting of the New England Medical Society will be held at the Evans Auditorium of the Massachusetts Memorial Hospitals on Wednesday, May 17, 1933, at 8 P.M., 80 East Concord Street, Boston, Mass.

The address of the evening will be by Dr. Albert A. Berg of the Mount Sinai Hospital, New York City.

Subject: Subtotal Gastrectomy for the Radical Cure of Gastric and Duodenal Ulcer, with a Consideration of Its Late Physiological and Chemical Results.

Dr. Lincoln Davis of Boston will open the discussion.

All physicians interested in this subject are invited to attend the meeting.

LOUIS G. HOWARD, M.D., *Secretary.*

THE AMERICAN ASSOCIATION FOR THE STUDY OF GOITRE

This organization will meet in Memphis, Tennessee, May 15, 16, 17, 1933, at the Hotel Peabody.

The scientific sessions are open to members of the medical profession in good standing.

Memphis is spoken of as the most central large Southern city.

The program is voluminous and attractive.

Dr. R. L. Sanders is Chairman of the local committee to whom letters of inquiry may be sent.

THE AMERICAN COLLEGE OF PHYSICIANS

The American College of Physicians will hold its Eighteenth Annual Clinical Session in Chicago, with headquarters at the Palmer House, April 16-20, 1934.

Announcement of these dates is made particularly with a view not only of apprising physicians generally of the meeting, but also to prevent conflicting dates with other societies that are now arranging their 1934 meetings.

Dr. George Morris Piersol, of Philadelphia, is President of the American College of Physicians, and will arrange the Program of General Sessions. Dr. James B. Herrick, Emeritus Professor of Medicine of Rush Medical College, Chicago, has been appointed General Chairman of local arrangements and will be in charge of the Program of Clinics. Mr. E. R. Loveland, Executive Secretary, 133-135 S. 36th Street, Philadelphia, Pa., is in charge of general and business arrangements, and may be addressed concerning any feature of the forthcoming Session.

THE WILLIAM HARVEY SOCIETY

The next meeting of the William Harvey Society will be held Friday, May 12, at 8:00 P.M., in the auditorium of the Beth Israel Hospital.

Speaker: Dr. Martin E. Rehfuss, Professor of Medicine, Jefferson Medical College. Subject: "Diseases of the Stomach."

Chairman: Dr. Hyman Morrison, Associate Professor of Medicine, Tufts College Medical School.

MIDDLESEX EAST DISTRICT MEDICAL SOCIETY

The next meeting of the Middlesex East District Medical Society will be held May 10 at 1:00 o'clock at the Meadowbrook Club, Reading.

ALLAN R. CUNNINGHAM, M.D., *Secretary.*

MASSACHUSETTS PSYCHIATRIC SOCIETY

The next meeting of the Massachusetts Psychiatric Society will be held at the Boston Psychopathic Hospital, 74 Fenwood Road, on Tuesday, May 16, at 8:00 P.M.

The speaker will be Dr. Donald D. Durrell, Assistant Professor of Education, Boston University, on the Emotional Factors in Reading Difficulties.

OSCAR J. RAEDER, M.D., *Secretary.*

SOCIETY MEETINGS, CONGRESSES AND CONFERENCES

May 4—The Clover Hill Hospital, Staff Meeting. See notice on page 919, issue of April 27.

May 4 and 11—The Edward K. Dunham Lectures for Promotion of the Medical Sciences. See page 811, issue of April 13.

May 5—Massachusetts General Hospital, Fracture Service. See page 866, issue of April 20.

May 8, 9, and 10—American Gynecological Society. See page 516, issue of March 2.

May 9-10—American Climatological and Clinical Association. See page 769, issue of April 6.

May 10—Massachusetts Society for Mental Hygiene. See notice on page 919, issue of April 27.

May 12—William Harvey Society. See notice elsewhere on this page.

May 15, 16, 17—The American Association for the Study of Goitre. See page 969.

May 16—South End Medical Club. See page 969.

May 16—Massachusetts Psychiatric Society. See notice elsewhere on this page.

May 17—New England Medical Society. See page 969.

May 17—New England Physical Therapy Society. See page 1010, issue of December 1.

May 19—New England Pediatric Society. See page 969.

May 22-May 31—The New England Heart Association. See page 1011, issue of December 1.

June 12-16—Woman's Auxiliary to the American Medical Association. See page 815, issue of April 13.

June 13—The American Board of Obstetrics and Gynecology. See page 607, issue of March 16.

June 13—American Heart Association. See page 768, issue of April 6.

June 28 to July 3—Third International Hospital Association. See page 811, issue of April 13.

August 10, 11, 12—American Delegation to the International Goiter Conference. See page 768, issue of April 6.

October 9-12—American Public Health Association. See page 403, issue of February 16.

April 16-20, 1934—The American College of Physicians. See notice elsewhere on this page.

DISTRICT MEDICAL SOCIETIES

ESSEX SOUTH DISTRICT MEDICAL SOCIETY

Tentative Program

Thursday, May 4, 1933—Censors' Meeting, Salem Hospital, 3:30 P.M.

Tuesday, May 9, 1933—Annual Meeting. Salem Country Club, Forest Street, Peabody. Golf in afternoon; greens fee $2.00. Dinner at 7 P.M. Speaker: Dr. George Burgess Magrath. Ladies invited.

R. E. STONE, M.D., Secretary.

FRANKLIN DISTRICT MEDICAL SOCIETY

Meeting will be held at the Weldon in Greenfield on the second Tuesday of May.

CHARLES MOLINE, M.D., Secretary.

MIDDLESEX EAST DISTRICT MEDICAL SOCIETY

May 10—See notice elsewhere on this page.

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY

May 4 — Censors' Meeting. See page 816, issue of April 13.

NORFOLK DISTRICT MEDICAL SOCIETY

May—Annual Meeting. Time, place and subject to be announced.

May 4—Censors' Meeting. See notice on page 919, issue of April 27.

FRANK S. CRUICKSHANK, M.D., Secretary.
1695 Beacon Street, Brookline.

SUFFOLK DISTRICT MEDICAL SOCIETY

May 4—Censors' Meeting. See page 815, issue of April 13.

WORCESTER DISTRICT MEDICAL SOCIETY

Wednesday, May 10—The Annual Meeting.

ERWIN C. MILLER, M.D., Secretary.

BOOK REVIEW

L'Aérophagie et Son Traitement. By FÉLIX RAMOND et J. DIMITRESCO-POPOVICI with H. DANY. Masson et Cie, Paris, 1933. Price 17 fr.

This outline, another of the series on the practice of Medicine and Surgery, briefly describes the pathogenesis, etiology, symptoms, diagnosis, prognosis and treatment of gaseous disorders of the digestive system. Here, too, in treatment the use of physiotherapeutic measures is generally advocated.